ORDER NO. VRD9602M104

Service Manual

Video Cassette Recorder

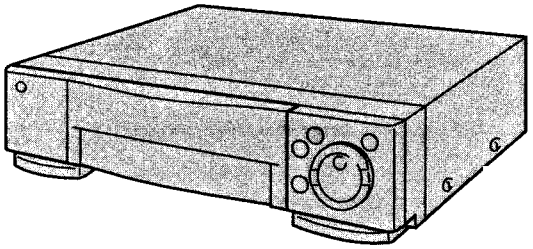
General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

Panasonic S-VHS 625 VHS PAL SECAM

Hi-Fi HQ

NV-HS900F

K-MECHANISM



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	SOURCE: 220 – 240 V AC 50/60 Hz
	CONSUMPTION: 32 watts
RECORDING SYSTEM	2 rotary heads, helical scanning system
	PAL/SECAM
TV TUNER SYSTEM	VHF I: CH2 – CH4 (SECAM L) CHE2 – CHS3 (PAL B) VHF III: 121 – 174 MHz CH5 – CH10, 216 – 393 MHz (SECAM L) CHS4 – CHS41 (PAL B) VHF H: 393 – 470 MHz (SECAM L) UHF: CH21 – CH69 (SECAM L/PAL G) 75Ω terminated
VIDEO	HEADS: 4 rotary heads 1 pair for SP recording, playback and trick play (L-R heads) 1 pair for LP recording, playback and trick play (L'-R' heads) 1 flying erase head
	INPUT: EURO AV (AV1, AV2) Connectors (21 pin) 1.0 Vp-p, 75Ω unbalanced S-VIDEO IN (AV3) Connector 1.0 Vp-p, 75Ω unbalanced VIDEO IN (AV3) Connector (Phono type) 1.0 Vp-p, 75Ω unbalanced
	OUTPUT: EURO AV (AV1, AV2) Connectors (21 pin) 1.0 Vp-p, 75Ω unbalanced S-VIDEO OUT Connector 1.0 Vp-p, 75Ω unbalanced VIDEO OUT Connector (Phono type) 1.0 Vp-p, 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio) 2 rotary heads (Hi-Fi 2CH)
	INPUT: EURO AV (AV1, AV2) Connectors (21 pin) More than −6 dBV (500 mV), More than 10 kΩ AUDIO IN (AV3) Connector (Phono type) More than −10 dBV (316 mV), More than 47 kΩ MICROPHONE JACK −70 dBV

ITEM	SPECIFICATION
AUDIO	OUTPUT: EURO AV (AV1, AV2) Connectors (21 pin) −6 dBV (500 mV), Less than 1 kΩ AUDIO OUT Connector (Phono type) −8 dBV (400 mV), Less than 1 kΩ HEADPHONE JACK −30 dBV, 8Ω
	TRACK: 1 track (Normal-mono only) 2 channels (Hi-Fi Sound-Stereo)
TAPE FORMAT	S-VHS, VHS Cassette tape (Tape width 12.7 mm)
TAPE SPEED	SP: 23.39 mm/s (PAL), 33.35 mm/s (NTSC) LP: 11.695 mm/s (PAL), 11.12 mm/s (NTSC) Record/Playback Time: SP: 4 hours with 240 min. type tape LP: 8 hours with 240 min. type tape FF/REW Time: 2.5 min. with 180 min. type tape
OPERATING TEMPERATURE	5°C – 40°C
OPERATING HUMIDITY	35% – 80%
DIMENSIONS	430 (W) × 107 (H) × 356 (D) mm
WEIGHT	5.4 kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red Remote Controller 1 pc. Audio Cables 1 pc. AC Mains Lead 1 pc. S-VIDEO 4 P Cable 1 pc. Edit 5 P Cable 1 pc. EURO AV 21 P Cable

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.

Section 1 presents you with technical know how for actual servicing and general information of features and controls, enabling you to become familiar with each function.

Section 2 presents to your mechanical and electrical adjustment information as well disassembly and replacement procedures.

In the case of very common information relating to other models like mechanical adjustments, please refer to the appropriate service manual.

Section 3, 4 contains block diagrams which provides you with information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c. ...

Section 5 contains exploded views and parts list.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

1-1-1. CHANNEL MEMORY IC INITIALIZATION

When replacing the channel memory IC6702, its IC should be initialized.

Note:
1) It should be performed before tuning.
2) Meaning of "INITIALIZATION" is to make dependency in different models and to distinguish between different features.

Method:
1) Connect a jumper wire between TL SERV and TL TEST as shown Location of Test Points & Controls (Page: 2-4).
2) Turn the Shuttle Ring to FF then push the Eject button to set the Service Mode (Test Mode will be appeared on the monitor TV.)
3) Set the Model Code for this model by using 10-key on the Remote Controller Unit as follows.
4) After finishing the initialization, and cancel the Service Mode.

		NV-HS900F
Code No.	IR	177

Note:1) Set to IR No. when there is OSD button on the Remote Controller.
2) Set to OSD No. when there is not OSD button on the Remote Controller.

1-1-2. SERVICE POSITION

A. CHECKING OF MAIN C.B.A.

When servicing the MAIN C.B.A., take out the MAIN C.B.A. and mechanism from the frame and turn over.

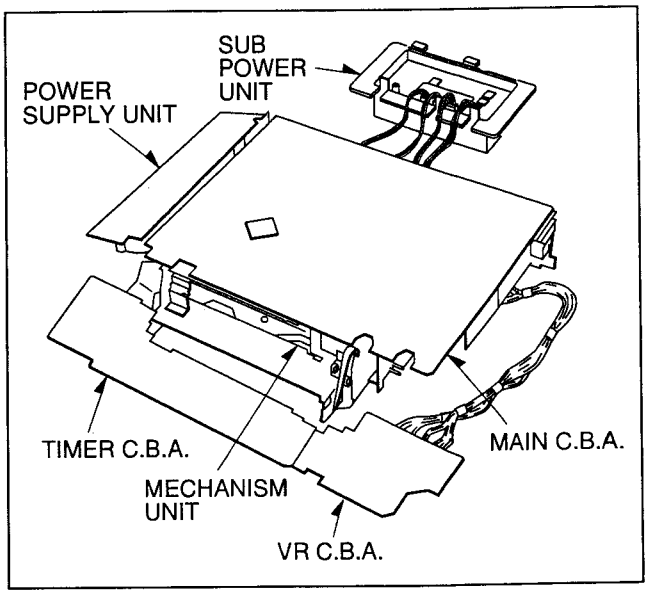


Fig. S1

B. MECHANISM SERVICE POSITION

When servicing the K-Mechanism, take out the mechanism from the MAIN C.B.A. and connect Extention Cable (VFK0889) between the loading-motor connector and P2001 as shown below.
In this position, the following services are possible.

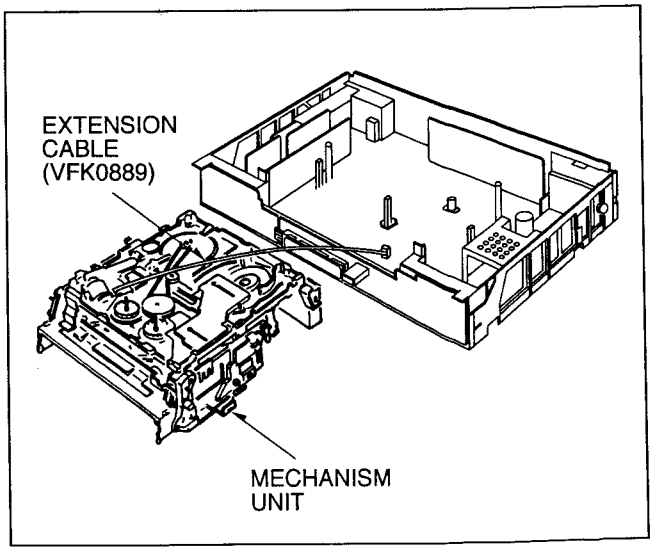


Fig. S2

B-1. CHECKING OF GEAR PHASE ALIGNMENT CONDITION

1) Check gear phase Alignment Condition of Mechanism.

B-2. CHECKING OF LOADING/UNLOADING OPERATION

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Turn the Worm Gear or the Worm Wheel Gear (Remove the Loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Extention Cable (VFK0889).
   2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./+4.5V) to the Loading Motor terminals.

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. Turn the Shuttle Ring to FF then push the EJECT button.
   2) Turn the Shuttle Ring to FF then push the EJECT button 7 times to set the Service Mode 7. (The end of display on the Display becomes "--".)
   3) In the above Service Information Display mode, the Loading Motor rotates for Loading operation when the "PLAY" button is pressed. The Loading Motor rotates for unloading operation when the "STOP" button is pressed.

Remark:
Use the "SERVICE INFORMATION DISPLAY" mode for a final check of mechanism movement.

B-3. CHECKING OF REEL GEARS OPERATION

1) Move the mechanism to "PLAY" position by loading operation. (Refer to B-2)
2) Turn the Capstan Rotor Unit to check movement of reel gears.

1-1-3. POWER SUPPLY UNITs SERVICE POSITION

Use the extension cables when checking.

PART NO.	PART NAME	PCS	CONNECTION
VFK1140	11-PIN WIRE CABLE	1	P1001 (MAIN) – P1102 (POWER)

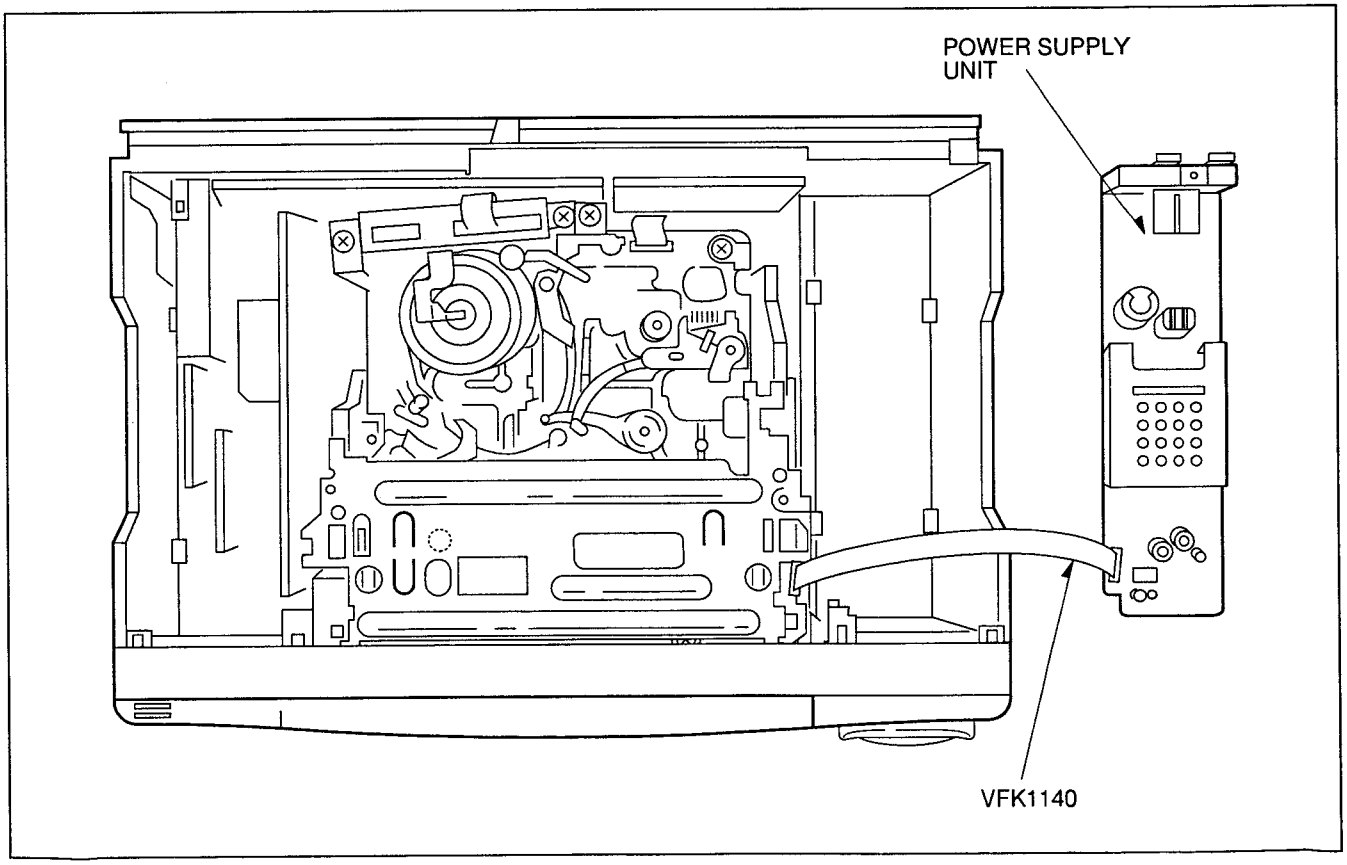


Fig. S3

1-1-4. UPPER CYLINDER REPLACEMENT

A. NEW GLDD CYLINDER

1) GLDD and New GLDD Cylinder
   The construction of New GLDD Cylinder has been designed simpler than GLDD Cylinder, and the general performance has been improved.
2) The difference between GLDD Cylinder and conventional cylinder.
   (1) GLDD has improved linearity, higher stability of head revolution with oil sealing and higher serviceability with the simpler structure.
   GLDD and New GLDD Cylinders are used for step-up range VCR.
   (2) GLDD enables less working time to replace upper cylinder unit and cylinder unit due to the following reasons.
      1) No Soldering
      2) No Screws
   Please refer to "Upper Cylinder Replacement" for the detailed replacement procedure.

Note: "GLDD" cylinder stands for the following.
G: GLDD has been developped and introduced from VCRs using G- Mechanism.
LDD: Liquid Direct Drive.

B. UPPER CYLINDER DISASSEMBLY

1) Remove the Top Panel.
2) Remove the Screw (A) and Earth Plate.
3) Lift up the Upper Cylinder.

Note: Do not remove 3 Screws on the Upper Cylinder.

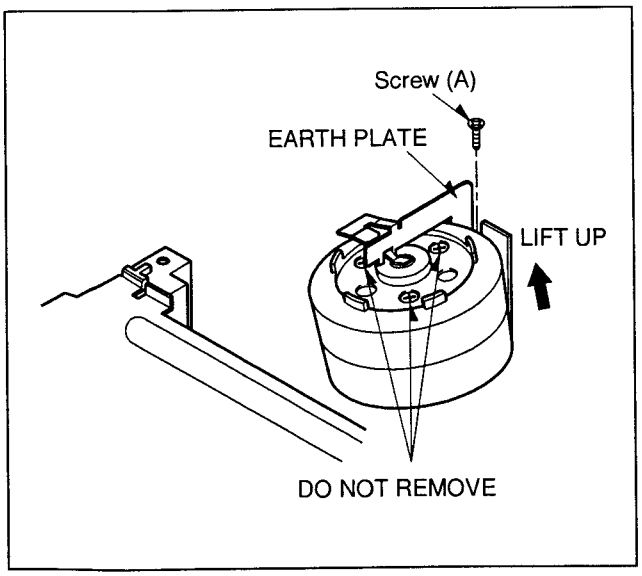


Fig. S4

Do not remove the Rotor Magnet which fixed by 3 screws on the Upper Cylinder.

If it is removed, refer to following method.

1) Install the Rotor Magnet so that the hole (C) on the Rotor Magnet fits to the small projection (D) on bottom of the Upper Cylinder.
2) Tighten 3 screws on top of the Upper Cylinder.

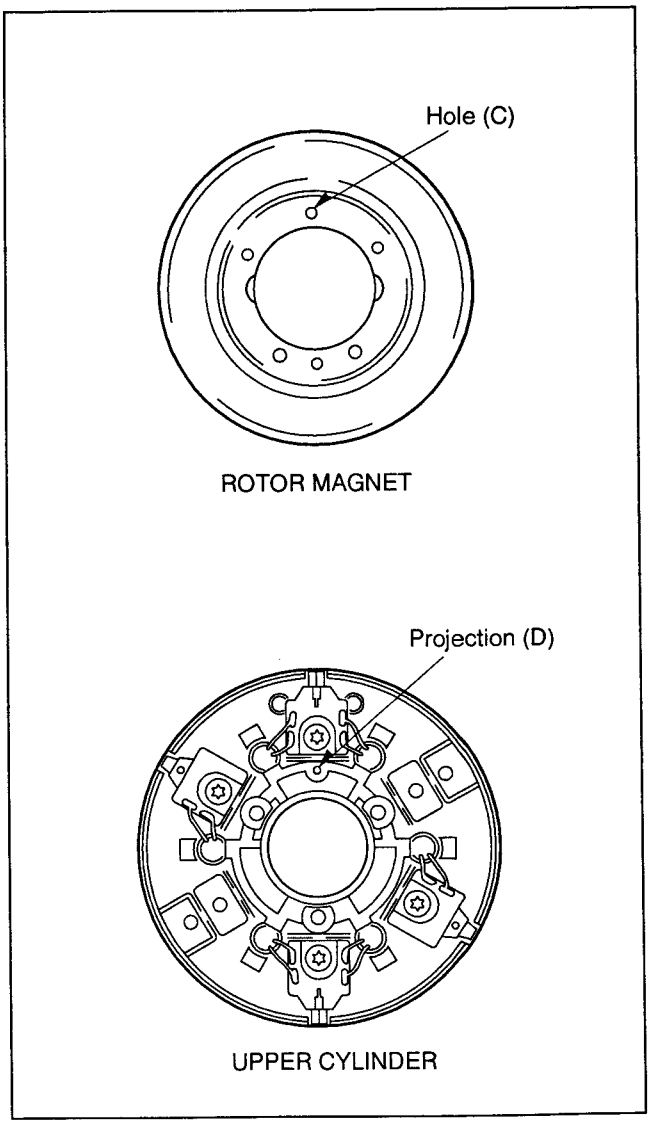


Fig. S5

C. UPPER CYLINDER ASSEMBLY

When reassembling, perform the steps in the reverse order of the DISASSEMBLY METHOD.

1-1-5. NEW GLDD CYLINDER UNIT REPLACEMENT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the Front Panel Unit.
3) Remove the Mechanism Unit.
4) Remove the Screw (A) and Earth Plate. (Fig. S4)
5) Remove the 3 screws (E) of the Cylinder Unit with a magnetized screw driver.

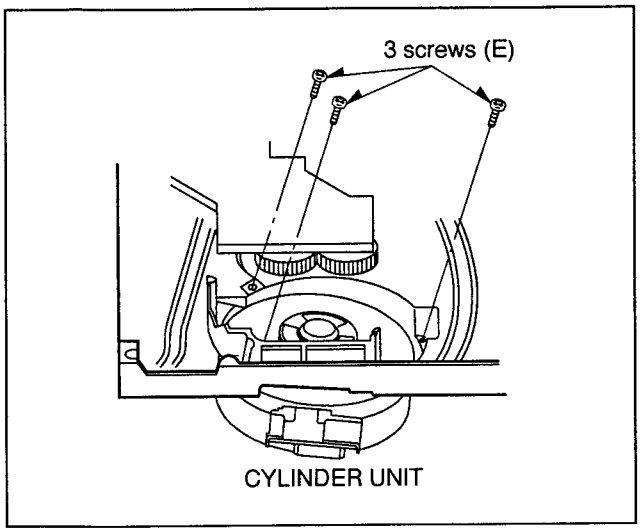


Fig. S6

1-1-6. FLAT CARD CABLE INSTLLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

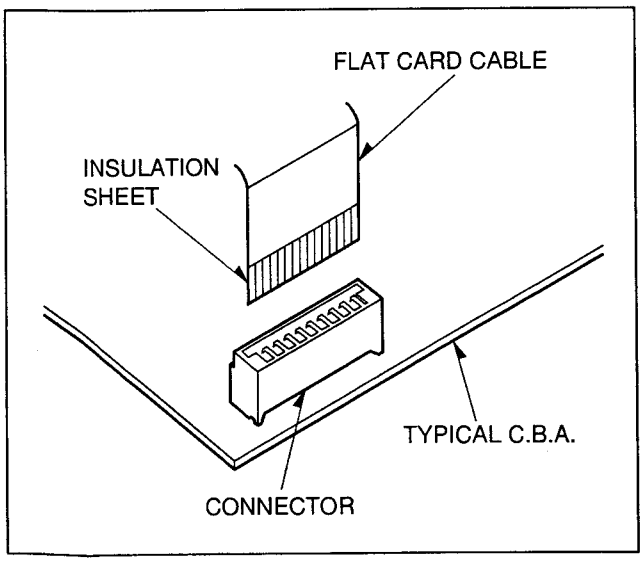


Fig. S7

1-1-7. CAPSTAN STATOR UNIT ASSEMBLY

When replacing the Capstan Stator Unit, the Centre Fixing Tool (VFK0851) must be used to fix the centre of Capstan Stator Unit.

Method:
1) Place the Capstan Stator Unit into position.
2) Loosely tighten the 3 screws.
3) Insert the Centre Fixing Tool (VFK0851) as shown below.
4) Tighten the 3 screws.
5) Remove the Centre Fixing Tool.

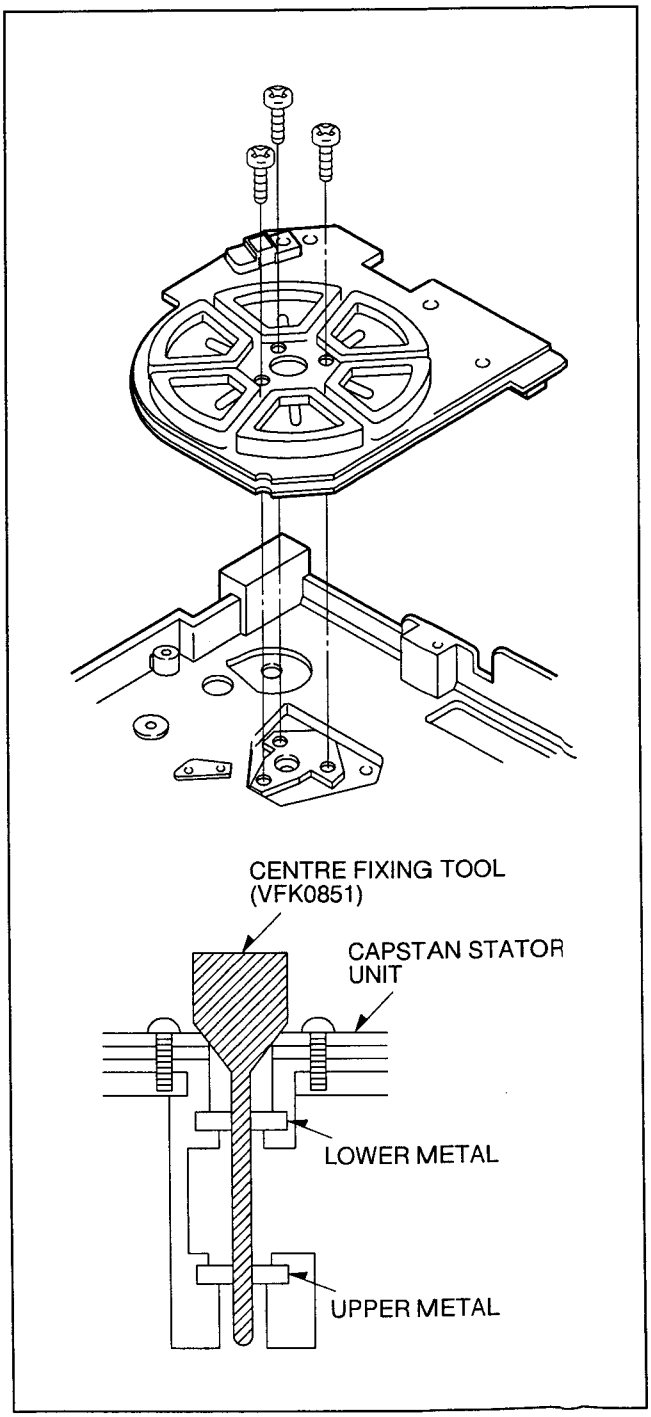


Fig. S8

1-1-8. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
To perform the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

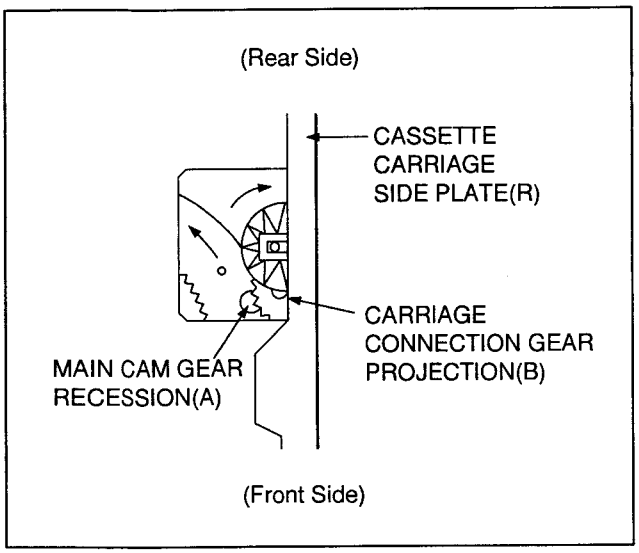


Fig. S9 Top View of Eject Operation

1-1-9. TAKE-UP PHOTO SENSOR OPERATION

Note the following matters for Take-up Photo Sensor Operation.

1) While servicing of the K-Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take-up Photo Sensor. In this case, cover the Take-up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K-Mechanism with "Power On" and without cassette tape inserted, the Unit does not operate properly.

1-1-10. REMOVAL OF THE CASSETTE TAPE

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Take out the mechanism from MAIN C.B.A.
2) Turn the Worm Gear manually, moving the Loading Post to the unloaded position.
3) Turn the Capstan Rotor Unit clockwise to take up the tape.
4) Turn the Worm Gear again to eject the cassette.

2. BATTERY OPERATION

1) Take out the mechanism from Main C.B.A.
2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./ +4.5V) to the Loading Motor terminals as shown below.
3) After moving the Loading Post to the unloaded position, disconnect the battery to stop the motor.
4) Turn the Capstan Rotor Unit to clockwise to take up the tape.
5) Reconnect the battery to eject the cassette.

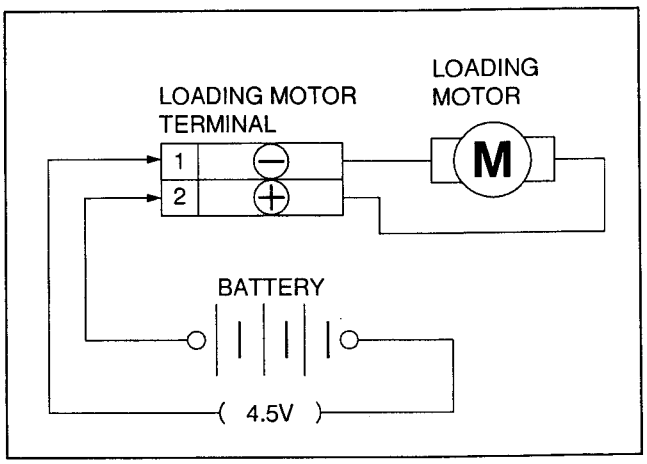


Fig. S10

If the cassette tape can not be removed by the above 2 methods, remove it by the following method.

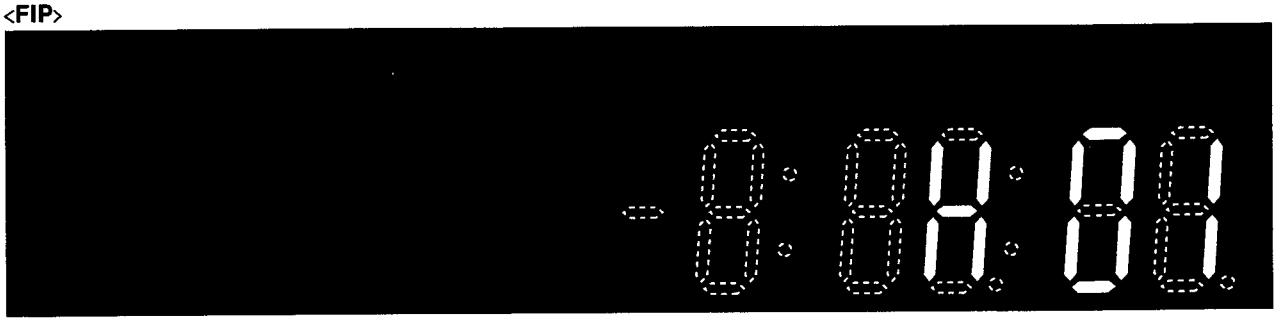
1) Remove the Top Panel.
2) Remove the Front Panel Unit.
3) Lift up the Pinch Arm after removing spring.
4) Push the P5 Arm and remove the cassette tape from tape transportation (P1, P2, P3 and P5 Posts).
5) Turn the Capstan Rotor Unit to take up the tape.
6) Remove 1 screw from the Side Plate (R) Unit to disconnect the Rack Gear from the Carriage Connection Gear.
7) Take out the cassette tape from the Cassette Compartment.

1-2. SELF-TEST INDICATION DISPLAY

This VTR has a self-diagnosis and display function. If the VTR detects trouble during installation or during use, one of the following Fault Indication Codes will automatically appear in the VTR display. Fault Indication codes are displayed in the form of a single English letter followed by two numbers, as for example "H01".

Note:1. The indication "U" is displayed on the FIP while power remains on.
2. Otherwise, the indication "H" or "F" is displayed on the FIP, and the power is automatically turned off. When the power is turned on again, the Fault Indication Code will disappear and the unit will return to normal display mode (either clock or counter).
3. This Fault Indication Code will be stored in the Timer microprocessor even with the AC plug disconnected.
The two-digit number portion of the stored Fault Indication Code can be redisplayed in the FIP's "second" display position (the last 2 digits on the light) by placing the unit is Service Mode Number 2 when turning on Service Information Display as for example "01" or "02" etc.
If a second error occurs, only the most recent error will be displayed and stored.
4. To erase the stored Fault Indication Code data, Turn the Shuttle Ring to FF then push the EJECT button for 5 seconds.

<FIP>



INDICATION	CAUSE	REMEDY/CHECK
U 10	Dew formation.	Wait until the indication disappears.
H01	After cylinder lock is detected, the cylinder does not start rotating again even after tape unloading.	Check the cylinder-motor drive circuit.
H02	Cassette tape is not wound up during tape unloading except Eject mode.	Check the capstan-motor drive circuit.
F03	Mechanism locks during mode transition except Eject mode.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment. 3. Check the Mode Switch.
F04	Mechanism locks during tape unloading.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment.
F05	Cassette tape is not wound up during tape unloading in Eject mode.	1. Check the capstan-motor drive circuit. 2. Check the Supply/Take-up reel pulse.
F06	Mechanism locks after tape unloading in Eject mode.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment for Cassette Holder Unit.
F09	No serial clock transmission between IC6001 and IC7501.	Check the serial clock circuit.

Fig. T1 Self-Test Indication Display

1-3. SERVICE INFORMATION DISPLAY

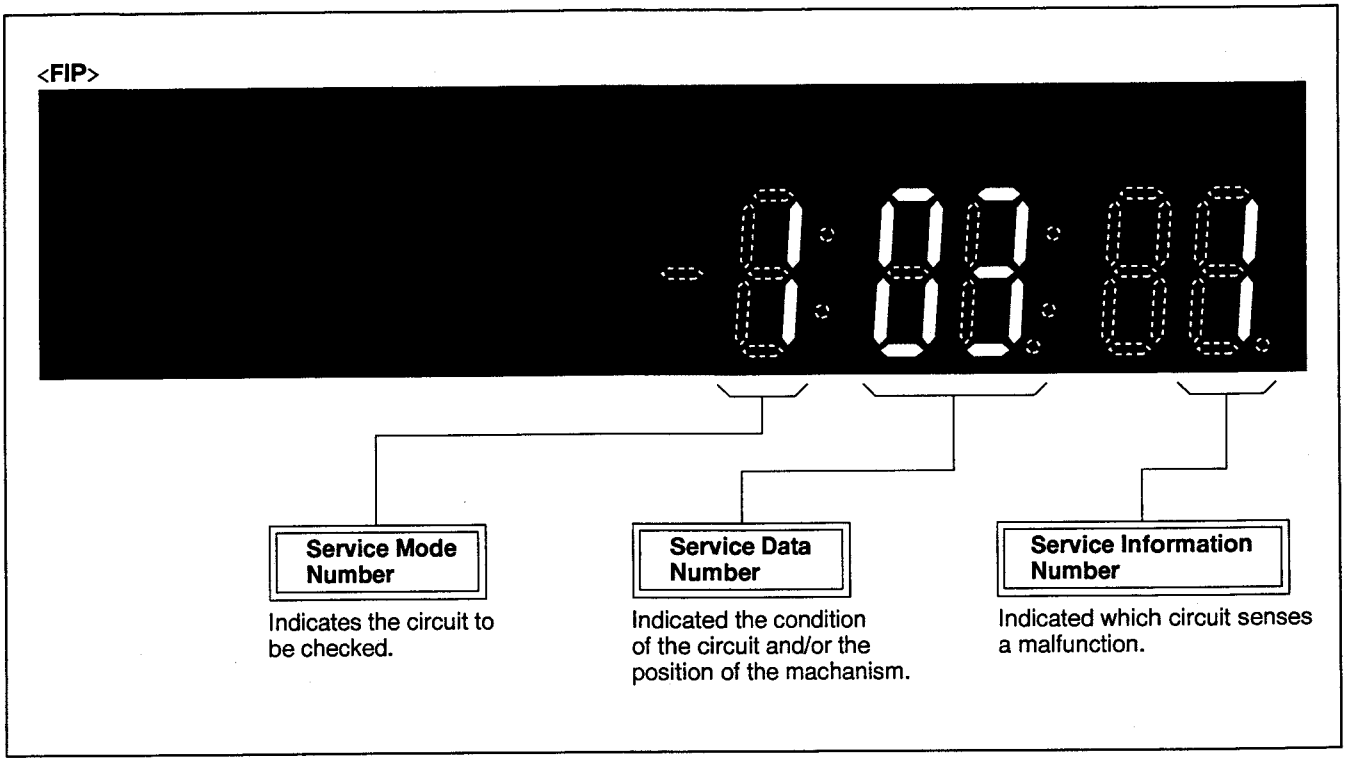


Fig. D1 Service Information Display

1-3-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-3-2. Turning on Service Information Display

(1) Turn the Shuttle Ring to FF then push the EJECT button to set the Service Mode.

In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which of the 7 service modes that the unit is currently in.

MODE 1 : Checks tape protection circuit
MODE 2 : Checks tape transport mechanism
MODE 3 : Checks mode switching operation
MODE 4 : Checks control buttons
MODE 5 : Checks capstan motor
MODE 6 : Checks cylinder motor
MODE 7 : Checks loading/unloading operation

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is not supplied.

1-3-3. Use of Service Modes

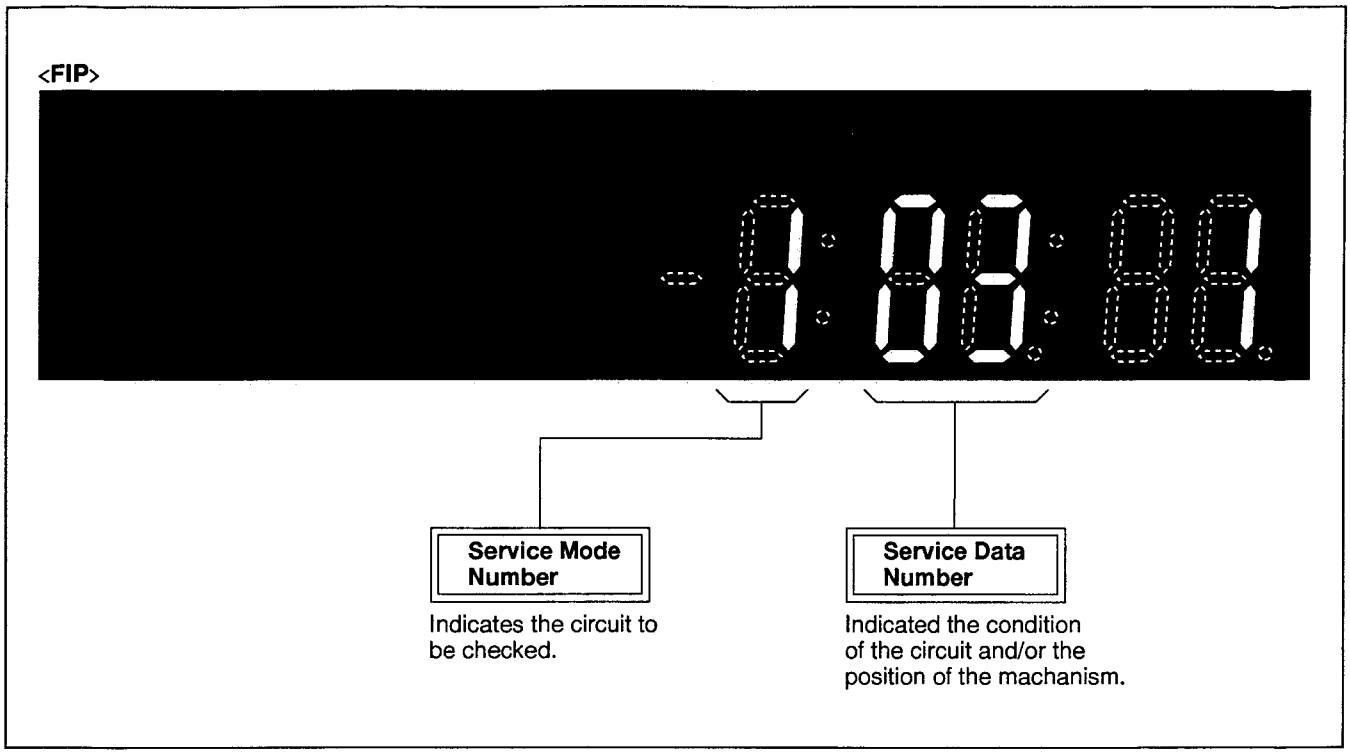


Fig. D2 Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.
(2) To change Service Modes turn the Shuttle Ring to FF then push the EJECT button.
(3) Mode 1 : Checks that the Sensor LED, Supply & Take-up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take-up Sensors.
When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.
(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.
(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.
(6) Mode 4 : Checks the operation circuit.
Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.
(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.
(8) Mode 6 : Checks the cylinder motor circuit.
IC6001 has received the command to rotate the cylinder motor.
(9) Mode 7 : Checks the Loading/Unloading Operation.
The Loading Motor rotates for loading operation when the "PLAY" button is pressed.
The Loading Motor rotates for unloading operation when the "STOP" button is pressed. This mode can be displayed indefinitely until the OPERATE button is pressed.

<NOTE>
Refer to Fig. D5 for details of Service Data Numbers.

1-3-4. Service Information Number

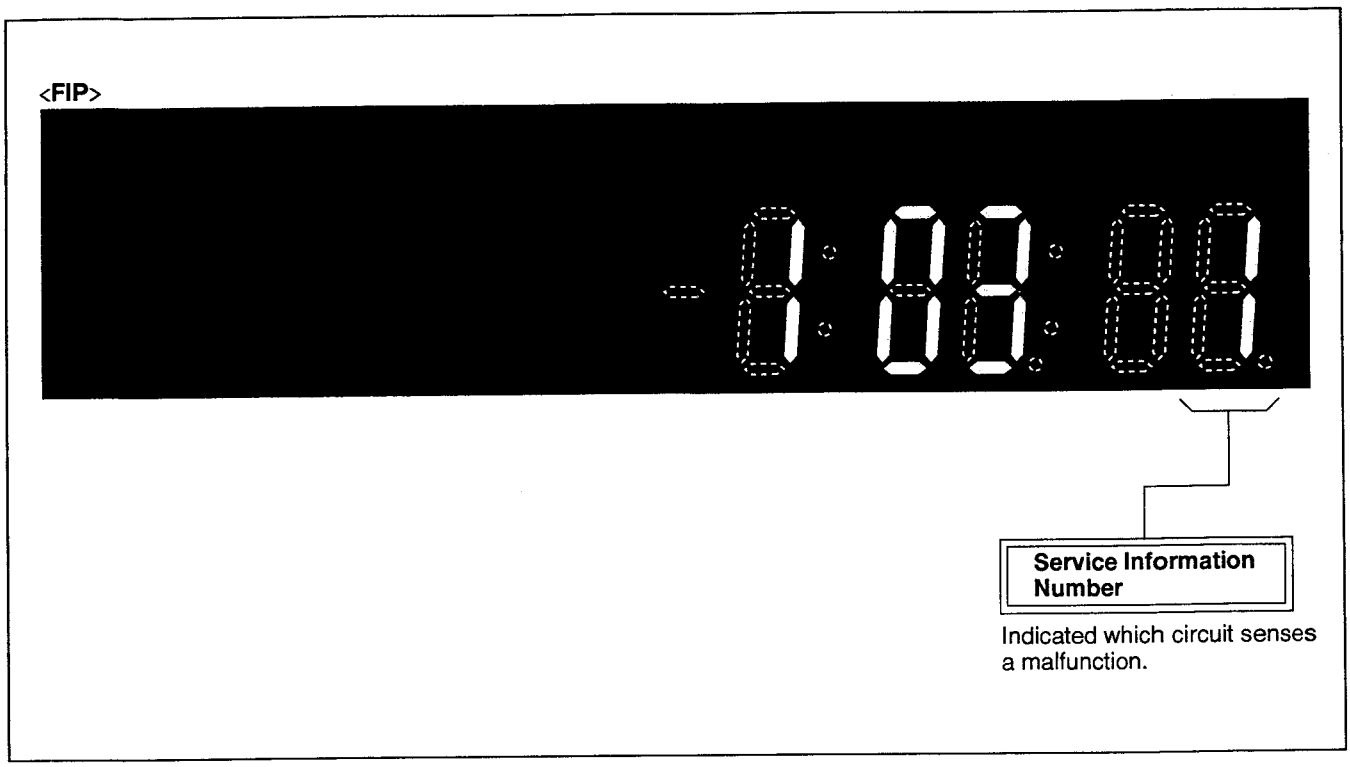


Fig. D3 Service Information Number on S.I.D.

Refer to Fig. D4 for details of Service Information Number.

Note:
The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is not supplied. (If can be displayed in the Service Mode 2.)
If a second error occurs, only the most recent error will be displayed.

Service Information Number	Malfunction
00	Normal (No problem)
01	Cylinder stop
02	Tape reel stop
03	Stop at position other than 4 or 6
04	Stop during unloading
05	Faulty capstan rotation
06	Stop during Cassette-In/Eject operation

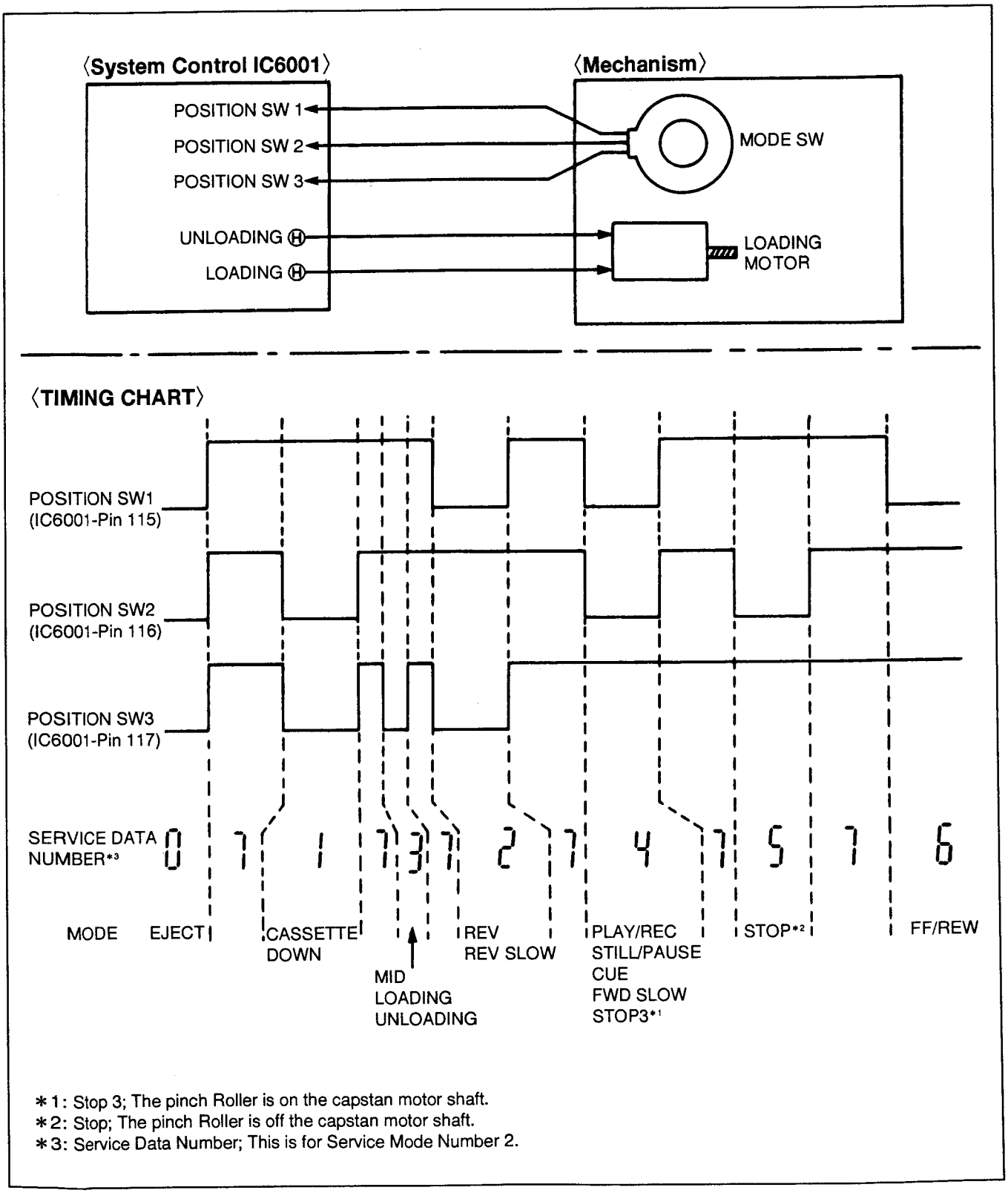
Fig. D4 Detail Service Information Numbers

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	———	00	No light detected at either sensor.	Tape not required.
		01	Tape Beginning. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2	———	00	EJECT	Tape Required. *1: STOP3; The Pinch Roller is on the capstan motor shaft. *2: STOP; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP *2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.	8 1 (Left Digit, Right Digit)	8, 9, u, A, −, n, L, and no display indicate that the Capstan motor "PLAY" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.	8 7 (Left Digit, Right Digit)	1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor "CUE, FF, Forward Slow" commands received by IC6001.	
	Right digit only, disregard left digit display.	8 (Left Digit, Right Digit)	8, 9, u, A, −, n, L, and no display indicate that the Capstan motor "Reverse, Rew, Reverse Slow" commands received by IC6001.	
6	Left digit only, disregard Right digit display.	1 0 (Left Digit, Right Digit)	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

Fig. D5 Service Data Display and Indication

1-3-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position through the Mode SW.
Fig. D6 shows the timing for Service Mode Number 2.



*1: Stop 3; The pinch Roller is on the capstan motor shaft.
*2: Stop; The pinch Roller is off the capstan motor shaft.
*3: Service Data Number; This is for Service Mode Number 2.

Fig. D6 Timing Chart of Mode SW

1-3-6. Input/Output Chart for IC6001

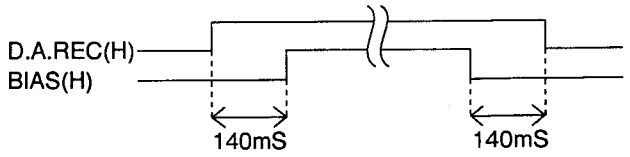
Pin Number	Input/Output	Port Name	Function
1	O	TV (H) / VTR (L)	TV/VTR switch output
2	O	FM MUTE(H)	This port is high during special playback (CUE, REV, SLOW, STILL) mode.
3	O	AUDIO MUTE (H)	This port is high during special playback (CUE, REV, SLOW, STILL) mode.
4	O	EDIT MODE (H)	This port is high during edit mode.
5	O	VIDEO EE (L)	This port is low during EE mode.
6	O	SLOW/STILL (L)	This port is low during SLOW and STILL modes.
7	O	CHG AT (H)	This port is high while the auto-tracking is performed in variable speed playback mode.
8	O	VOLTAGE CHANGE (H)	This port is high while the loading motor torque is increased in FF and REW modes.
9	O	LM LIMIT (H)	Loading motor torque limitter output
10	O	FF/REW (L)	This port is low during FF and REW modes.
11	O	UNLOADING (H)	This port is high while the mechanism is unloaded.
12	O	LOADING (H)	This port is high while the mechanism is loaded.
13	O	D.A. REC (H)	Normal audio recording control 
14	O	BIAS (H)	
15	O	MIX (H)	Normal and HIFI audio mix control MIX ON : HIGH MIX OFF : LOW
16	I	SHORT CHECK (H)	DC voltage (BIAS (H)) detection • When the low voltage is detected in recording mode, the VCR is turned off. • When the high voltage is detected in except recording mode, the VCR is turned off.
17	I	S-VHS PB (H)	This port is high during S-VHS playback.
18	O	PB AI2 (H)	AI playback control
19	O	PB AI1 (H)	AI playback control
20	I	S-TAB (L)	This port is low while the cassette tape with safety tab is inserted.

Fig. MP1

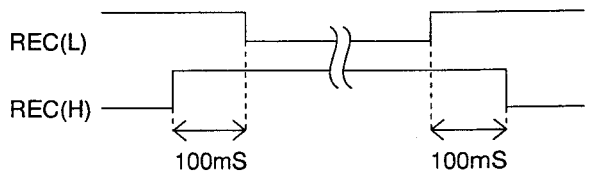
<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>21</td><td>I</td><td>ABS NORM IN</td><td>HIFI audio mode detection
● When the low voltage is detected, the audio output is compulsory normal audio mode.</td></tr>
<tr><td>22</td><td>I</td><td>L CH IN</td><td rowspan="2">HIFI audio mode detection<table><tr><th></th><th>L CH IN</th><th>R CH IN</th></tr><tr><td>L CH SEL</td><td>L</td><td>H</td></tr><tr><td>R CH SEL</td><td>H</td><td>L</td></tr><tr><td>L+R SEL</td><td>L</td><td>L</td></tr><tr><td>NORMAL SEL</td><td>H</td><td>H</td></tr></table></td></tr>
<tr><td>23</td><td>I</td><td>R CH IN</td></tr>
<tr><td>24</td><td>I</td><td>REC AI (L)</td><td>AI mode selection
AI PB ONLY : HIGH
AI PB AND REC : LOW</td></tr>
<tr><td>25</td><td>I</td><td>RESET (L)</td><td>This port is low while IC6001 is reset.</td></tr>
<tr><td>26</td><td>I</td><td>MODE SEL</td><td>Active mode selection for microprocessor</td></tr>
<tr><td>27</td><td>I</td><td>NC</td><td>Not used (Low setting)</td></tr>
<tr><td>28</td><td>I</td><td>PG AUTO (H)</td><td>PG shifter adjustment selection
AUTO ADJUST : HIGH
MANUAL ADJUST : LOW</td></tr>
<tr><td>29</td><td>O</td><td>CAPSTAN RVS (H)</td><td>Capstan motor direction selection
REVERSE : HIGH
FORWARD : LOW</td></tr>
<tr><td>30</td><td>O</td><td>REC (L)</td><td rowspan="2">DC voltage control for recording mode.
 
</td></tr>
<tr><td>31</td><td>O</td><td>REC (H)</td></tr>
<tr><td>32</td><td>O</td><td>A. DUB (H)</td><td>This port is high during audio dubbing mode.</td></tr>
<tr><td>33</td><td>O</td><td>INSERT (L)</td><td>This port is low during insert mode.</td></tr>
<tr><td>34</td><td>O</td><td>SYSTEM 3</td><td>Refer to Fig. MP. 6</td></tr>
<tr><td>35</td><td>O</td><td>SYSTEM 4</td><td>Refer to Fig. MP. 6</td></tr>
<tr><td>36</td><td>O</td><td>SYSTEM 5</td><td>Refer to Fig. MP. 6</td></tr>
<tr><td>37</td><td>I</td><td>DIGITAL 5V</td><td>VDD</td></tr>
<tr><td>38</td><td>O</td><td>12MHz OUT</td><td>Oscillator output</td></tr>
<tr><td>39</td><td>I</td><td>12MHz IN</td><td>Oscillator input</td></tr>
<tr><td>40</td><td>O</td><td>32KHz OUT</td><td>Oscillator output</td></tr>
<tr><td>41</td><td>I</td><td>32KHz IN</td><td>Oscillator input</td></tr>
</table>

Fig. MP2

Pin Number	Input/Output	Port Name	Function
42	I	DIGITAL GND	GND
43	O	FULL ERASE (H)	Full erase on/off control ON : HIGH OFF : LOW
44	O	D. REC (H)	Video signal recording on/off control
45	O	D. FM. REC (H)	HIFI audio signal recording on/off control
46	O	FLYING ERASE (H)	Flying erase head on/off control ON : HIGH OFF : LOW
47	O	REC CUR 1	AI REC current switching signal output
48	O	REC CUR 2	AI REC current switching signal output
49	O	REC CUR 3	AI REC current switching signal output
50	O	A. H. SW	HIFI audio head switching signal output
51	O	S. DATA OUT	Serial data output
52	I	S. DATA IN	Serial data input
53	O	S. CLOCK	Serial clock output
54	O	5P S. DATA OUT	EDIT 5P serial data output
55	I	5P S. DATA IN	EDIT 5P serial data input
56	O	5P S. CLOCK	EDIT 5P serial clock output
57	O	CAP R/S/F	Capstan rotation direction control REVERSE : HIGH STOP : MIDDLE FOWARD : LOW
58	O	CURRENT LIMIT	Capstan motor current limitter output
59	O	ENV2	AI PB control signal output
60	O	PIC VR OUT	This port supplies the voltage which depends on picture VR setting.
61	O	ART V/H/N	This port supplies artificial vertical sync signal to stabilize the picture in special playback mode.

Fig. MP3

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>62</td><td>O</td><td>VIDEO H. SW</td><td>Video head switching signal output</td></tr>
<tr><td>63</td><td>O</td><td>ROTARY SW</td><td>Rotary switching signal output</td></tr>
<tr><td>64</td><td>O</td><td>H. AMP. SW</td><td>Head amp switching signal output</td></tr>
<tr><td>65</td><td>I</td><td>ENVE SELECT</td><td>This port receives the playback envelope signal level to select the video head in special playback mode.</td></tr>
<tr><td>94</td><td>I</td><td>T- PHOTO</td><td>This port receives the signal when take-up photo sensor detects the tape beginning.</td></tr>
<tr><td>95</td><td>I</td><td>S-PHOTO</td><td>This port receives the signal when supply photo sensor detects the tape end.</td></tr>
<tr><td>96</td><td>I</td><td>NORMAL/
SERVICE/TEST</td><td>NORMAL/SERVICE/TEST mode selection
<table><tr><th>INPUT VOLTAGE</th><th>MODE</th></tr><tr><td>MORE THAN 4.0V</td><td>NORMAL</td></tr><tr><td>2.5V~4.0V</td><td>SERVICE</td></tr><tr><td>LESS THAN 2.5V</td><td>TEST</td></tr></table></td></tr>
<tr><td>97</td><td>I</td><td>SYSTEM
SELECT</td><td>System mode selection for auto setup
<table><tr><th>INPUT VOLTAGE</th><th>MODE</th></tr><tr><td>MORE THAN 3.0V</td><td>MODE 4</td></tr><tr><td>2.0V~3.0V</td><td>MODE 2</td></tr><tr><td>LESS THAN 2.0V</td><td>MODE 1</td></tr></table></td></tr>
<tr><td>98</td><td>I</td><td>STEREO/BIL</td><td>Audio mode detection for display on the OSD
<table><tr><th>INPUT VOLTAGE</th><th>DISPLAY</th></tr><tr><td>MORE THAN 4.2V</td><td>NO DISPLAY</td></tr><tr><td>3.0V~4.2V</td><td>MONO 1</td></tr><tr><td>2.0V~3.0V</td><td>BILINGUAL</td></tr><tr><td>0.8V~2.0V</td><td>MONO 1+2</td></tr><tr><td>LESS THAN 0.8V</td><td>STEREO</td></tr></table></td></tr>
<tr><td>99</td><td>I</td><td>DEW SNS</td><td>This port is more than 1.36V during detecting the dew formation.</td></tr>
<tr><td>100</td><td>I</td><td>ATIC SEL</td><td>Head amp IC setting for playback envelope detection
<table><tr><th>INPUT VOLTAGE</th><th>IC</th></tr><tr><td>MORE THAN 3.0V</td><td>TEA5705</td></tr><tr><td>2.0V~3.0V</td><td>AN3336</td></tr><tr><td>LESS THAN 2.0V</td><td>AN3360</td></tr></table></td></tr>
<tr><td>101</td><td>I</td><td>PIC VR IN</td><td>This port receives the voltage which depends on picture VR setting.</td></tr>
<tr><td>102</td><td>I</td><td>CHROMA IN</td><td>AI PB Chrominance level adjustment input</td></tr>
<tr><td>103</td><td>I</td><td>SLTR MM</td><td>Slowtracking adjustment input</td></tr>
<tr><td>104</td><td>I</td><td>AV MODE SEL</td><td>TV/VTR switch setting
<table><tr><th>INPUT VOLTAGE</th><th>SWITCH</th></tr><tr><td>MORE THAN 3.0V</td><td>TV/VTR</td></tr><tr><td>2.0V~3.0V</td><td>NO SW</td></tr><tr><td>LESS THAN 2.0V</td><td>AV LINK</td></tr></table></td></tr>
</table>

Fig. MP4

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>105</td><td>I</td><td>TRACKING ENVE</td><td>Playback envelope input for tracking adjustment</td></tr>
<tr><td>106</td><td>I/O</td><td>EDIT TRIG</td><td>Trigger signal in/output for synchronized editing</td></tr>
<tr><td>107</td><td>O</td><td>2H (H)</td><td>This port supplies the high signal in SP mode.</td></tr>
<tr><td>108</td><td>O</td><td>T SNS LED (L)</td><td>Sensor LED drive signal output
• When this port supplies the low signal, the sensor LED is lit.</td></tr>
<tr><td>109</td><td>I/O</td><td>PREROLL</td><td>Preroll signal in/output for synchronized editing.</td></tr>
<tr><td>110</td><td>O</td><td>SYSTEM 2</td><td>Refer to Fig. MP. 6</td></tr>
<tr><td>111</td><td>O</td><td>SYSTEM 1</td><td>Refer to Fig. MP. 6</td></tr>
<tr><td>112</td><td>I/O</td><td>HIFI/MIX/NORM</td><td rowspan="2">Audio output mode control
<table><tr><th></th><th colspan="4">MODE</th></tr><tr><th></th><th>STEREO</th><th>L CH</th><th>R CH</th><th>NORMAL</th></tr><tr><td>HIFI/MIX/NORM</td><td>H</td><td>H</td><td>H</td><td>L</td></tr><tr><td>L CH/R CH/STEREO</td><td>L</td><td>H</td><td>Z</td><td>L</td></tr></table>Z: HIGH IMPEDANCE</td></tr>
<tr><td>113</td><td>O</td><td>L CH/R CH/
STEREO</td></tr>
<tr><td>114</td><td>I</td><td>DIGITAL 5V</td><td>VDD</td></tr>
<tr><td>115</td><td>I</td><td>POSITION SW1</td><td rowspan="3"><table><tr><th>P. SW 3</th><th>P. SW 2</th><th>P. SW 1</th><th>Position (Mode) Name</th></tr><tr><td>O</td><td>O</td><td>O</td><td>EJECT</td></tr><tr><td>O</td><td>O</td><td>I</td><td>CASSETTE DOWN</td></tr><tr><td>O</td><td>I</td><td>O</td><td>REV, REV SLOW</td></tr><tr><td>O</td><td>I</td><td>I</td><td>MID (LOADING/UNLOADING)</td></tr><tr><td>I</td><td>O</td><td>O</td><td>PLAY/REC, STILL/PAUSE, CUE, FWD SLOW STOP3 *1</td></tr><tr><td>I</td><td>O</td><td>I</td><td>STOP</td></tr><tr><td>I</td><td>I</td><td>O</td><td>FF/REW</td></tr><tr><td>I</td><td>I</td><td>I</td><td>INTERMEDIATE</td></tr></table>(*1) The Pinch Roller is on the capstan motor shaft.</td></tr>
<tr><td>116</td><td>I</td><td>POSITION SW2</td></tr>
<tr><td>117</td><td>I</td><td>POSITION SW3</td></tr>
<tr><td>118</td><td>O</td><td>AUDIO MODE
SELECT</td><td>Audio mode switching signal output</td></tr>
<tr><td>119</td><td>I</td><td>GND</td><td>GND</td></tr>
<tr><td>120</td><td>I</td><td>REC WIDE (H)</td><td>This port is high during wide recording mode.</td></tr>
<tr><td>121</td><td>O</td><td>WIDE (H)</td><td>This port is high during playback the tape recorded with wide mode.</td></tr>
<tr><td>122</td><td>O</td><td>AI MES (H)</td><td>This port is high when measuring the head and tape condition to determine the optimum recording current before starting the AI recording.</td></tr>
<tr><td>123</td><td>O</td><td>POWER OFF (H)</td><td>Power on/off control</td></tr>
<tr><td>124</td><td>O</td><td>TRICK (L)</td><td>This port is low during special playback (CUE, REV, SLOW, STILL) mode.</td></tr>
</table>

Fig. MP5

	MODE 1	MODE 2	MODE 3	MODE 4
PIN 111 (SYSTEM 1)	H: MESECAM L : PAL Z : AUTO	H: MESECAM L : PAL	H: PAL L : NTSC Z : AUTO	H: MESECAM L : PAL Z : AUTO
PIN 110 (SYSTEM 2)	H: EXCEPT NTSC L : NTSC-M	H: SECAM L : PAL Z : AUTO	——	H: EXCEPT NTSC L : NTSC-M
PIN 34 (SYSTEM 3)	H: NORMAL L : DBS/CANAL	H: NORMAL L : DBS/CANAL	——	H: NORMAL L : DBS/CANAL
PIN 35 (SYSTEM 4)	H: PAL- I L : B/G/D/K	H: SECAM L : PAL	——	H: PAL-I L : B/G/D/K
PIN 36 (SYSTEM 5)	H: PAL L : NTSC	H: PAL L : NTSC	H: 50Hz L : 60Hz	H: PAL L : NTSC

Z: HIGH IMPEDANCE

Fig. MP6

Note: 1. The mode is decided depend on SYSTEM SELECT PORT (PIN 97).

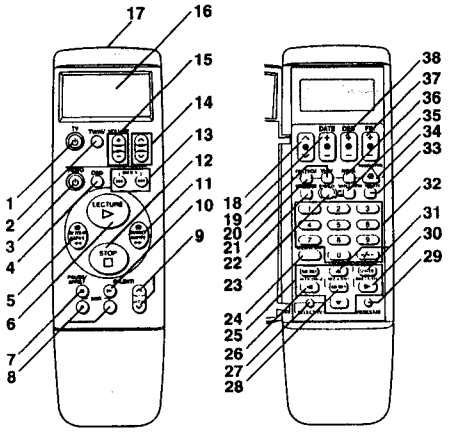
1-3-7. AI (ARTIFICIAL INTELLIGENCE) FUNCTION

The recording and playback are adjusted to achieve optimum picture quality from tapes with varying charactristics.

(1) Detail explanation
<Playback mode>
The picture quality is varying from the different tapes as follows:
1) If the output level is low, from worn or rental cassette tapes, a soft picture is obtained by the RF equlizer and picture control on the Lumi./Chro. Pack C.B.A.
2) If the output level is medium, from normal tapes, a sharp picture is obtained from the emphasis and picture control on the Lumi./Chro. Pack C.B.A.
3) If the output level is high, from HG/S tapes, a sharp and detailed picture is obtained from the RF equlizer, emphasis picture control and noise canceller on the Lumi./Chro. Pack C.B.A.

<Recording mode>
The optimum recording level is used for all head conditions and for all types of tapes.
1) The luminance S/N is boosted 2 dB.
2) Recording head wear compensation.
3) The optimum recording current is achieved in 1.5 seconds.

Télécommande infrarouge



1 TV
Pour basculer le TV en mode allumé ou veille. En mode veille l'appareil est toujours raccordé au secteur.
- Sur certains modèles de téléviseur, cet interrupteur peut ne permettre que la commutation sur le mode veille. Dans ce cas, utiliser **TV/AV** ou **∨ ∧ (TV)** pour allumer le téléviseur.

2 TV/AV (Téléviseur/AV)
Pour sélectionner l'entrée du téléviseur.

3 VIDEO
Pour basculer entre le mode allumé et veille. En mode veille le téléviseur est toujours raccordé au secteur.

4 OSD (Affichage sur écran)
Pour obtenir la fonction d'affichage sur écran.

5 RETOUR RAPIDE

En mode d'arrêt:	Pour rembobiner la bande.
En mode de lecture:	Pour effectuer une recherche arrière.
En mode de rembobinage:	Pour obtenir une image à grande vitesse.

"◁◁" s'allume.

6 LECTURE
Pour déclencher la lecture. "▷" s'allume.
Pour la fonction de lecture répétée.

7 PAUSE/ARRET

Pendant la lecture:	Arrêt sur image.
Pendant l'enregistrement:	Pour interrompre l'enregistrement.

8 ENR
Pour commencer l'enregistrement.
- Appuyer simultanément sur les deux touches.

9 ∨ ∧ (VIDEO)
Pour sélectionner le canal voulu (chaîne de télévision) sur le magnétoscope.

10 RALENTI
Pour activer la lecture au ralenti. "▯▷" s'allume.

11 AVANCE RAPIDE

En mode d'arrêt:	Pour avancer la bande rapidement.
En mode de lecture:	Pour effectuer une recherche avant.
En mode d'avance rapide:	Pour obtenir une image à grande vitesse.

"▷▷" s'allume.

12 STOP
Pour arrêter la lecture ou l'enregistrement à tout moment.

13 INDEX
Pour la fonction de recherche d'index.

14 ∨ ∧ (TV)
(Touche descendante/ascendante du téléviseur)
Pour sélectionner le canal (chaîne de télévision) du téléviseur.

15 VOLUME
Pour régler le volume du téléviseur.

16 Afficheur

17 Emetteur infrarouge
Les données de programmation sont transmises au magnétoscope depuis cet émetteur.

18 ∨ ∧ (Touche descendante/ascendante)
Pour programmer un enregistrement par minuterie.

19 DATE
Pour programmer un enregistrement par minuterie.

20 VERIF
Pour vérifier les programmes de la minuterie.

21 ENR PROG
Pour mettre en et hors service la fonction d'enregistrement par minuterie.
"◳" s'allume ou s'éteint.
Une fois que le magnétoscope est réglé pour un enregistrement par minuterie, le fonctionnement normal du magnétoscope n'est plus possible, à moins que l'on ne mette cette touche sur OFF.

22 SHOWVIEW
Pour la programmation ShowView.

23 ENREG. VL/VN
Pour sélectionner la vitesse de bande lors de l'enregistrement.
VN donne la meilleure qualité d'image.
VL donne la durée d'enregistrement la plus longue.

24 SELECT. ENT
Pour sélectionner la source d'enregistrement externe A1, A2 ou A3.

25 Touches de fonctionnement OSD (Affichage sur écran)
MENU: Pour faire apparaître **Menu principal** de l'affichage sur écran de téléviseur.
▲ ▼ ◄ ►/MEMO:
Pour effectuer les sélections sur l'écran.
SORTIE:
Pour faire disparaître l'affichage sur écran du téléviseur.

26 AFFICHAGE
Pour commuter les données de l'afficheur du magnétoscope ou de l'affichage sur écran.
→Horloge→Compteur→Temps de bande restant→

27 SELECT. TV
Pour régler la télécommande en vue du fonctionnement du téléviseur.

28 MISE A ZERO
Pour ramener le compteur de bande à "0:00.00".
- Le compteur de bande revient automatiquement à "0:00.00" lorsqu'on insère une cassette vidéo.

29 VIDEO 1/2
(Mode de télécommande)
VIDEO1: Mettre sur cette position à la fois sur le magnétoscope et sur la télécommande pour une utilisation ordinaire avec un téléviseur.
VIDEO2: Mettre sur cette position pour utiliser deux magnétoscopes PANASONIC.

30 ARRET A ZERO
Pour la fonction d'arrêt au zéro.

31 ALIGN./STAB. VERT.
- Pour le réglage manuel de l'alignement
  Les touches + et − permettent de régler l'alignement lorsque, par exemple, les barres de parasites disparaissent mieux manuellement qu'avec la commande d'alignement numérique automatique. Après avoir effectué un réglage manuel, pour revenir à la commande d'alignement numérique automatique appuyer simultanément sur les deux touches.
- Pour le réglage de l'alignement au ralenti
  Si des barres de parasites apparaissent pendant un arrêt sur image ou une lecture au ralenti, commuter sur la lecture au ralenti et effectuer le réglage à l'aide de la touche + ou − pour réduire les barres de parasites.
- Pour le réglage de la stabilité verticale
  Utiliser les touches + ou − pour réduire l'instabilité verticale pendant un arrêt sur image.

32 Touches numériques
- Pour sélectionner les canaux (1 à 99).

9: (9)
19: (-/--) → (1) → (9)

- Pour programmer un numéro ShowView.

33 VIDEO/TV
Pour sélectionner le mode magnétoscope ou le mode téléviseur pour la liaison AV.

34 TRANSMETTRE
Pour transmettre les données qui ont été réglées sur la télécommande au magnétoscope.

35 SELECT. AUDIO
Pour sélectionner le mode sonore.
A chaque pression sur la touche, le mode de sortie audio change comme suit.

→Stéréo→Gauche→Droite→Piste audio normale→

Les témoins gauche (G) et droit (D) indiquent le mode sonore sélectionné de la façon suivante:

Stéréo:	Les deux témoins G et D apparaissent.
Gauche:	Le témoin G apparaît.
Droit:	Le témoin D apparaît.
Normal:	Les deux témoins G et D sont éteints.

36 ANNUL
Pour annuler les réglages d'un enregistrement par programmation.

37 FIN
Pour programmer un enregistrement par minuterie.

38 DEB
Pour programmer un enregistrement par minuterie.

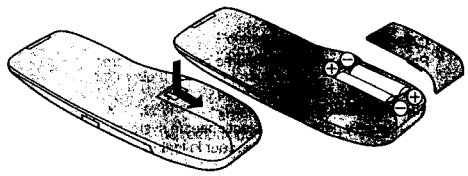
Alimentation de la télécommande

La télécommande est alimentée par 2 piles de format "AA", "UM3" ou "R6". L'autonomie des piles est d'environ un an, bien qu'elle dépende de la fréquence d'utilisation.

Précautions à observer lors du remplacement des piles

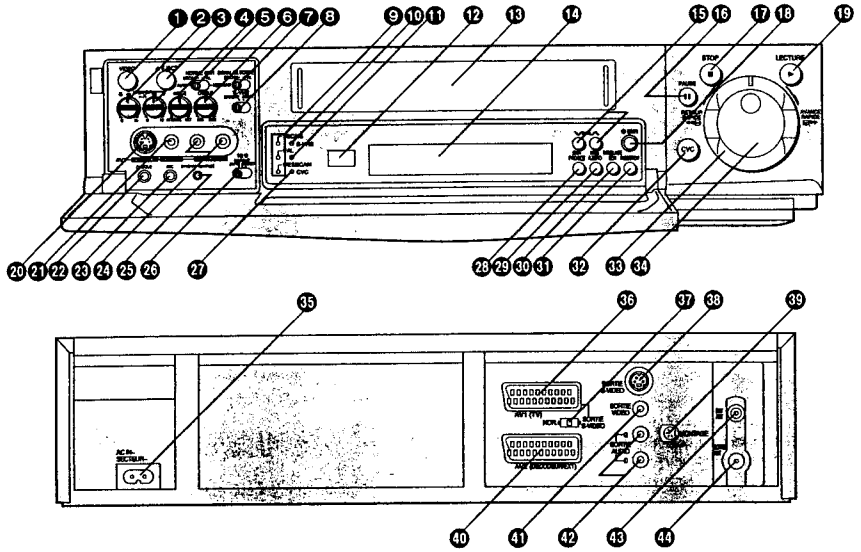
- Charger les piles neuves en respectant les polarités ⊕ et ⊖.
- Ne pas chauffer les piles, car cela pourrait provoquer un court-circuit interne.
- Si l'on ne prévoit pas d'utiliser la télécommande pendant longtemps, retirer les piles et les ranger dans un endroit frais et sec.
- Retirer les piles dès qu'elles sont usées et les jeter.
- Ne pas utiliser en même temps une pile neuve et une pile ayant déjà servi, et ne jamais utiliser une pile alcaline avec une pile au manganèse.

Mise en place des piles



Commandes et prises de raccordement

Cette section donne une explication détaillée de la fonction de chacune des touches, commutateurs et prises de raccordement.



❶ VIDEO
Appuyer pour commuter l'appareil en mode "allumé" ou en mode veille et vice versa. En mode de veille l'appareil est toujours raccordé au secteur.

❷ NIVEAU ENR Hi-Fi
Pour régler le niveau d'enregistrement à un niveau de crête de +4 dB sur l'indicateur de niveau d'enregistrement.

❸ EJECT (Ejection)
Pour éjecter la cassette vidéo.

❹ IMAGE
Pour donner à l'image des contours plus accentués (NET) ou plus adoucis (ATTENUE).

❺ NORME ENR
En mode VHS, le sélecteur de standard d'enregistrement permet de sélectionner le standard de couleur dans lequel l'enregistrement et la lecture vont être effectués.

❻ CASQUE
Pour régler le niveau de volume du casque stéréo raccordé.

❼ SIGNAL DE SORTIE
Ce sélecteur permet de sélectionner le système de télévision du signal de sortie pour la lecture de tout type de cassette.

❽ Sélecteur S-VHS
Pour effectuer un enregistrement sur une cassette S-VHS, sélectionner le format d'enregistrement à l'aide de cette touche.
MARCHE: L'enregistrement sera effectué dans le format S-VHS.
- L'indicateur S-VHS s'allume.

ARRET: L'enregistrement sera effectué dans le format VHS.
- L'indicateur S-VHS ne s'allume pas.

(Il est possible d'effectuer un enregistrement dans le format VHS sur une cassette S-VHS, par exemple pour lire la cassette sur un autre magnétoscope VHS.)

- Lorsqu'on utilise des cassettes VHS, l'enregistrement s'effectue dans le format VHS quelle que soit la position de la touche.
- Mettre cette touche sur ARRET pour lire une cassette S-VHS enregistrée au format VHS.
- Si une bande enregistrée dans le format S-VHS est reproduite sur un magnétoscope VHS classique, on n'obtiendra aucune image de lecture.

❾ Indicateurs du système d'enregistrement

❿ Témoin S-VHS
S'allume quand le commutateur S-VHS est enclenché sur MARCHE.

⓫ Témoin d'attente
Ce témoin s'allume quand le magnétoscope est éteint ou qu'il est en attente d'enregistrement par minuterie.

⓬ Fenêtre de réception de la télécommande infrarouge

⓭ Logement de cassette
Y insérer la cassette vidéo.

⓮ Afficheur

⓯ ∨ ∧ CANAL
Pour sélectionner le canal voulu (chaîne de télévision).

⓰ PAUSE
En mode d'arrêt: Arrêt sur image (Mode "jog/shuttle").
Pendant la lecture: Arrêt sur image (Mode "jog/shuttle").
Pendant l'enregistrement: Interruption de l'enregistrement.

⓱ STOP
Pour arrêter la lecture ou l'enregistrement.

⓲ ENR
Pour déclencher l'enregistrement.

⓳ LECTURE
Pour déclencher la lecture. "▷" s'allume.
Pour la fonction de lecture répétée.

⓴ ENT S-VIDEO (AV3)
Pour raccorder le câble S-Vidéo à une caméra ou à un autre magnétoscope doté d'une prise de sortie S-Vidéo.
- Si l'on raccorde un câble S-Vidéo, l'autre entrée vidéo se coupe automatiquement.

㉑ ENT VIDEO (AV3)
Pour raccorder le câble vidéo à un caméscope ou à un autre magnétoscope.

㉒ CASQUE
Pour raccorder un casque stéréo.

㉓ MIC
Pour raccorder un microphone en vue d'un enregistrement. Quand un microphone est raccordé, cette prise est prioritaire.

㉔ ENT AUDIO (AV3)
Pour raccorder le câble audio à un caméscope ou à un autre magnétoscope.

㉕ SYNCHRO MONTAGE
Pour raccorder un caméscope ou un autre magnétoscope équipé d'une prise de montage synchronisé.
Pour raccorder un caméscope ou un autre magnétoscope équipé d'une prise LANC en vue d'un montage à une touche.

㉖ 16:9
AUTO: Pour identifier automatiquement si les images sont au format 16/9 ou au format 4/3 pendant l'enregistrement et la lecture, et pour les afficher sur un écran de télévision format cinéma.
- Normalement, régler sur cette position.

MARCHE: Pour effectuer l'enregistrement et la lecture de façon que les images s'affichent constamment agrandies au format 16/9 sur l'écran de télévision format cinéma.
ARRET: Pour effectuer l'enregistrement et la lecture de façon que les images s'affichent constamment au format 4/3 sur un écran de télévision format cinéma ou 4/3.

㉗ Témoin CVC
Lorsque la fonction **CVC** est activée, ce témoin s'allume.

㉘ ENR PROG
Pour activer et désactiver la fonction d'enregistrement par minuterie.
"⏲" s'allume ou s'éteint.
Une fois que le magnétoscope est réglé pour un enregistrement par minuterie, le fonctionnement du magnétoscope n'est plus possible, à moins que l'on mette cette touche sur ARRET.

㉙ MISE A ZERO
Pour ramener le compteur de bande (durée écoulée) a "0:00.00".
- Le compteur de bande revient automatiquement à "0:00.00" quand on insère une cassette vidéo.

㉚ DOUBLAGE SON
Pour régler le magnétoscope en vue d'une postsynchronisation audio.
DOUBLAGE SON apparaît sur l'afficheur.

㉛ INSERTION
Pour régler le magnétoscope en vue d'un montage par insertion.
INSERTION apparaît sur l'afficheur.

㉜ CVC (Commande de netteté d'image)
OUI: Avec la fonction CVC, la lecture et l'enregistrement s'effectuent dans un état qui permet d'obtenir une qualité d'image optimale en fonction des caractéristiques de la bande.
- Le témoin CVC s'allume.
- Normalement, laisser cette commande sur la position OUI.

NON: Pour désactiver la fonction CVC.
- Le témoin CVC est éteint.

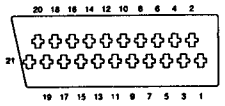
㉝ Bague SHUTTLE
En mode d'arrêt: Pour rembobiner ou avancer rapidement la bande.
En mode de lecture: Pour rechercher une image vers l'arrière ou vers l'avant.
En mode d'arrêt sur image: Pour régler la vitesse de lecture arrière ou avant.
En mode de rembobinage ou d'avance rapide: Pour obtenir une image à grande vitesse.

㉞ Commande JOG
Pour repérer une image quelconque avec précision.

Raccordements

㉟ SECTEUR~
Pour le raccordement au secteur.

㊱ AV1 (TV)
Cette prise de péritélévision à 21 broches achemine les signaux d'entrée et de sortie des images et du son. Les téléviseurs équipés d'une prise semblable pourront être raccordés via cette prise.
On l'appelle indifféremment prise Scart
prise de péritélévision
Euro-connecteur
Euro AV



NOR. (AV1/AV2)	SORTIE S-VIDEO (AV1)
1 Sortie audio CH2 (D)	1 Sortie audio CH2 (D)
2 Entrée audio CH2 (D)	2 Entrée audio CH2 (D)
3 Sortie audio CH1 (G)	3 Sortie audio CH1 (G)
4 Audio terre	4 Audio terre
5 Terre (bleu)	5 Sans connexion
6 Entrée audio CH1 (G)	6 Entrée audio CH1 (G)
7 Bleu	7 Sans connexion
8 Tension de commutation	8 Tension de commutation
9 Terre (vert)	9 Sans connexion
10 Sans connexion	10 Sans connexion
11 Vert	11 Sans connexion
12 Sans connexion	12 Sans connexion
13 Terre (rouge)	13 Sans connexion
14 Terre (effacement)	14 Sans connexion
15 Rouge	15 Sortie C
16 Effacement	16 Sans connexion
17 Sortie vidéo terre	17 Sortie vidéo terre
18 Entrée vidéo terre	18 Sans connexion
19 Sortie vidéo	19 Sortie Y
20 Entrée vidéo	20 Entrée vidéo
21 Terre	21 Terre

Attention: La réservation RGB ne concerne que les opérations E/E lorsqu'on raccorde un décodeur de télévision payante.

㊲ NOR./SORTIE S-VIDEO
NOR.: Normalement, régler sur cette position.
SORTIE S-VIDEO:
Régler sur cette position pour raccorder le magnétoscope à un téléviseur muni d'un connecteur de péritélévision à 21 broches avec broches séparées pour l'entrée des signaux Y et C.

㊳ SORTIE S-VIDEO
Pour raccorder le câble S-Vidéo à un téléviseur ou à un autre magnétoscope doté d'une prise d'entrée S-Vidéo.

㊴ MONTAGE
- En raccordant une table de montage en option (VW-EC300E/VW-EC310E) à cette borne, l'exécution de fonctions comme le montage par assemblage, le montage par insertion et la postsynchronisation audio entre deux magnétoscopes ou entre un magnétoscope et un caméscope sera plus rapide et plus efficace.
- Pour raccorder le câble de montage à un caméscope ou à un second magnétoscope en vue d'un montage à une touche.

㊵ AV2 (DECODEUR/EXT)
Pour le raccordement à un décodeur ou à un autre magnétoscope.

㊶ SORTIE VIDEO
Pour raccorder le câble vidéo à un téléviseur ou à un autre magnétoscope.

㊷ SORTIE AUDIO
Pour raccorder le son à une chaîne stéréo.

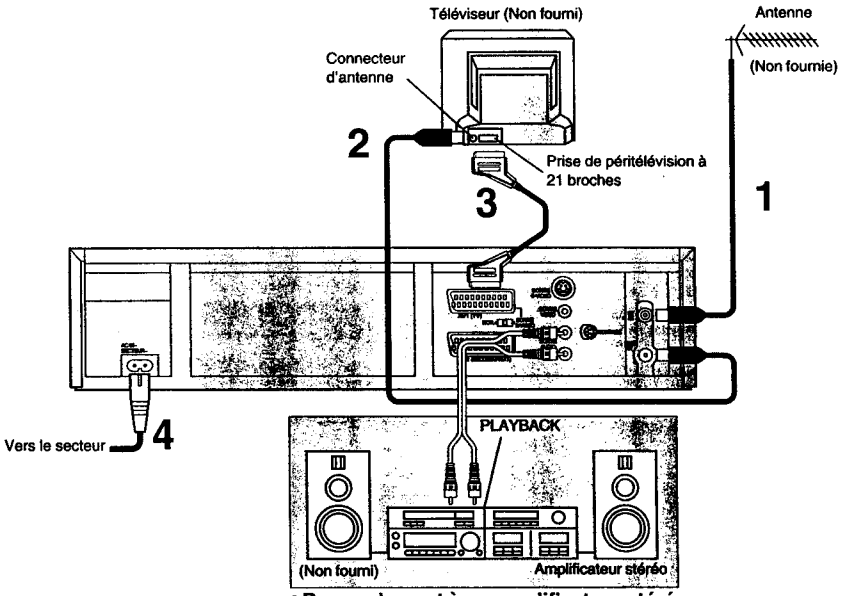
㊸ ENT ANT
Pour le raccordement à une antenne extérieure.

㊹ SORTIE ANT
Pour le raccordement à la borne d'antenne d'un téléviseur.

Cette section explique comment raccorder une antenne, un téléviseur, etc.

Raccordements de base

Pour pouvoir enregistrer et lire les signaux du magnétoscope sur un téléviseur, effectuer les raccordements suivants:



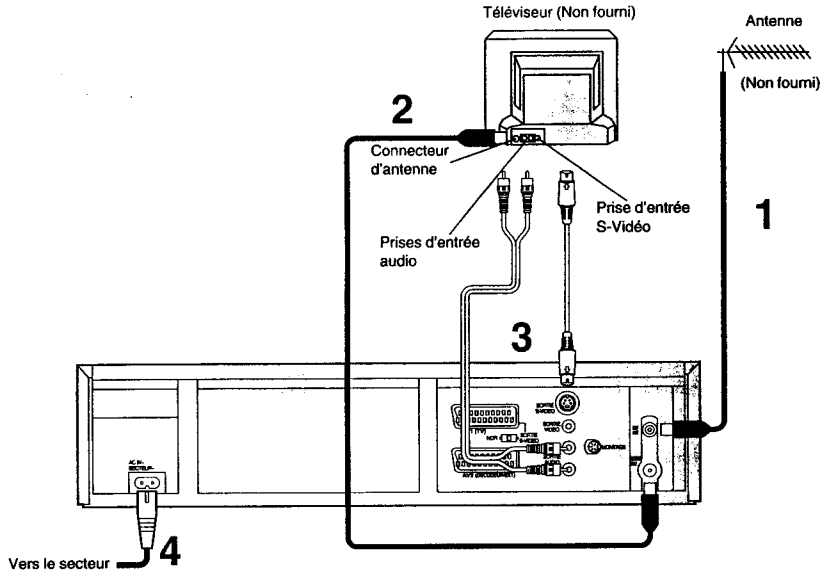
●Raccordement à un amplificateur stéréo

Raccordement à un téléviseur muni d'une prise S-Vidéo

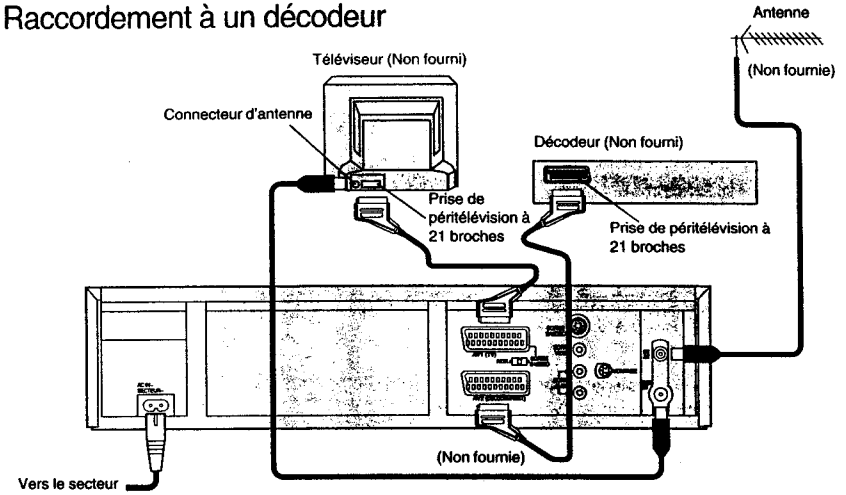
Ce magnétoscope utilise le format S-VHS qui permet d'obtenir une résolution élevée et une haute qualité d'image si l'on utilise des cassettes vidéo S-VHS à hautes performances.

Les prises vidéo classiques des magnétoscopes envoient (reçoivent) une combinaison des signaux de luminance (Y) et de chrominance (C) qui sont enregistrés sur la cassette vidéo. La nouvelle prise vidéo S(séparée)-VHS permet une transmission (en entrée et en sortie) séparée de ces deux signaux au téléviseur afin d'offrir des images plus nettes.

Le raccordement au câble S-Vidéo pourra également être utilisé pour la lecture de bandes enregistrées dans le format VHS classiques. La lettre "S" de la prise "S-Video" signifie "Signaux Y/C séparés" et non "S-VHS".



Raccordement à un décodeur



Remarques:

- Si le téléviseur est doté d'un connecteur compatible RVB, raccorder le câble AV à 21 broches du magnétoscope à ce connecteur. Raccorder le téléviseur au magnétoscope, et le magnétoscope au décodeur, à l'aide de câbles AV à 21 broches à broches complètes.

Vidéo-TV

Cette touche permet de commuter le téléviseur raccordé du mode téléviseur (TV) au mode magnétoscope (VIDEO) et vice versa lorsque le téléviseur est raccordé au moyen d'un câble de péritélévision à 21 broches.

Ceci rend possible tout un éventail de fonctions, comme par exemple l'enregistrement et le visionnement simultanés si l'on a raccordé un décodeur de télévision payante ou un récepteur satellite.

Mode magnétoscope (VIDEO) (témoin VIDEO allumé):
Pour obtenir le son et l'image du magnétoscope.

- Si l'on appuie sur **MENU** et que l'affichage OSD (affichage sur écran) apparaît, l'appareil commute également automatiquement en mode magnétoscope. Toutefois si l'appareil se trouvait à l'origine en mode téléviseur, le témoin VTR ne s'affiche pas.
- L'appareil commute également automatiquement en mode magnétoscope quand on déclenche la lecture. Toutefois, l'appareil ne pourra pas revenir au mode téléviseur pendant la lecture.

Mode téléviseur (TV) (témoin VIDEO éteint):
Pour regarder une émission sur le téléviseur pendant qu'on enregistre une autre émission sur le magnétoscope.

- Sélectionner l'émission que l'on veut regarder à l'aide du tuner du téléviseur.
- Le magnétoscope reçoit le son et l'image d'une autre chaîne.

Magnétoscope		Téléviseur
Sortie	Mode magnétoscope (VIDEO)	Entrée AV sélectionnée
	Mode téléviseur (TV)	Entrée tuner du téléviseur*
	—	Entrée tuner du téléviseur

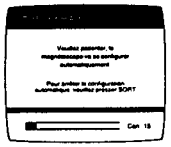
*Si le magnétoscope est en mode téléviseur (TV) et qu'on sélectionne une chaîne payante, les signaux seront brouillés même si l'on sélectionne la chaîne payante sur le tuner du téléviseur. Dans ce cas, régler le magnétoscope en mode magnétoscope (VIDEO), ou commuter le téléviseur en mode AV.

Configuration automatique

Configuration automatique

Lorsqu'on allume le magnétoscope après avoir raccordé l'antenne et le cordon secteur, la configuration automatique (accord automatique et réglage automatique de l'horloge) commence.

Affichage sur écran



- La configuration automatique recherche les chaînes de télévision entre le premier canal VHF et le dernier canal UHF, et elle mémorise les données de chaque canal.
- Il faut au moins 8 minutes pour que la configuration automatique recherche et mémorisation des chaînes de télévision et règle l'horloge.

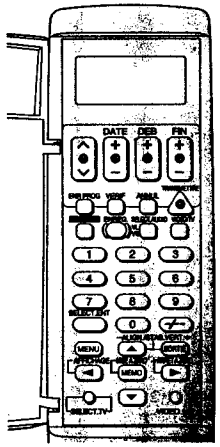
Remarques:

- Si le magnétoscope n'a pas été correctement réglé avec la configuration automatique, voir **"Réglages divers"**, aux pages 28 à 31.
- Le réglage automatique de l'horloge ne sera pas correct si les informations télétexte ne sont pas disponibles. Si l'écran de réglage de l'horloge apparaît une fois que l'accord automatique est terminé, régler l'horloge manuellement. Voir page 31.
- Les informations de l'horloge sont soumises aux informations télétexte. Si les informations de l'année ne se trouvent pas dans le télétexte ou que les informations de l'heure du télétexte sont incorrectes, régler l'horloge manuellement. Voir page 31.

Visionnement de la liste des chaînes de télévision

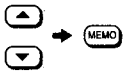
Préparatifs

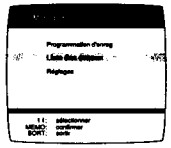
- Vérifier que le téléviseur est allumé.
- Allumer le magnétoscope.



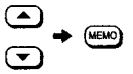
1 Appuyer sur **MENU**.

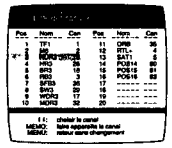
2 Sélectionner **Liste des canaux**.



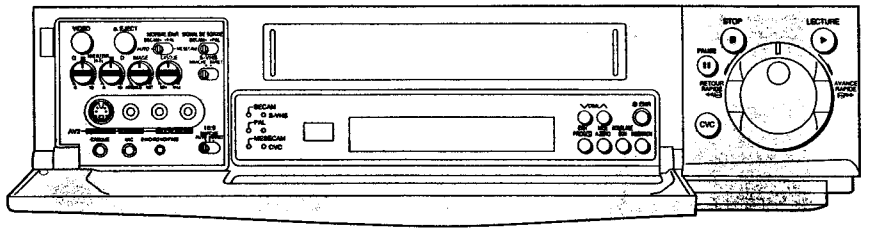


3 Sélectionner une chaîne de télévision, si l'on veut regarder une émission.





Sélecteur de système



Sélection du standard TV couleur: PAL—SECAM

Trois sélecteurs situés en face avant permettent de sélectionner le standard TV couleur pour l'enregistrement ainsi que pour la sortie du signal. En outre, grâce à un double transcodeur incorporé, le magnétoscope NV-HS900F peut répondre à tous les cas de figure.

Sélecteur de signal de sortie

Ce sélecteur permet de sélectionner le système de télévision du signal de sortie pour tout type de cassette en lecture. Sur un téléviseur SECAM, régler ce sélecteur sur la position "SECAM".
Sur un téléviseur SECAM/PAL ou PAL, régler ce sélecteur sur la position "PAL".

	Sortie VHS (sortie vidéo et composite Péritel)	Sortie S-Vidéo
[illegible]	SECAM	*C=SECAM
[illegible]	PAL	S-VHS-625

Sélecteur du signal d'entrée

Voir page 34.

Sélection du système de télévision pour l'enregistrement ou la lecture

En mode VHS, le sélecteur de standard d'enregistrement permet de sélectionner le système de télévision dans lequel l'enregistrement et la lecture vont être effectués.
Si l'on sélectionne le mode S-VHS et qu'on utilise une cassette S-VHS, ce sélecteur est sans effet et l'enregistrement s'effectue en S-VHS.

AUTO: L'enregistrement s'effectue dans le standard du signal d'entrée et la lecture s'effectue dans le standard de la cassette vidéo.
SECAM: L'enregistrement s'effectue au standard SECAM quel que soit le standard du signal d'entrée. La lecture est réservée pour les cassettes SECAM.
PAL: L'enregistrement s'effectue au standard PAL quel que soit le standard du signal d'entrée. La lecture est réservée pour les cassettes PAL.
MESECAM: L'enregistrement s'effectue au standard MESECAM quel que soit le standard du signal d'entrée. La lecture est réservée pour les cassettes MESECAM.

Témoins du système d'enregistrement
Le voyant correspondant au mode sélectionné par le sélecteur de système d'enregistrement s'allume.
Lorsque le commutateur est sur la position AUTO:
Le témoin du système couleur en cours d'enregistrement ou de lecture s'allume.

Enregistrement dans le mode S-VHS

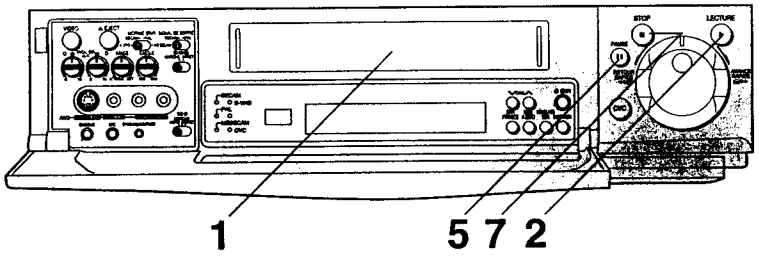
Si le mode S-VHS est sélectionné par le sélecteur S-VHS et qu'une cassette S-VHS est utilisée l'action du sélecteur de la norme d'enregistrement devient sans action et laisse la priorité au mode S-VHS.

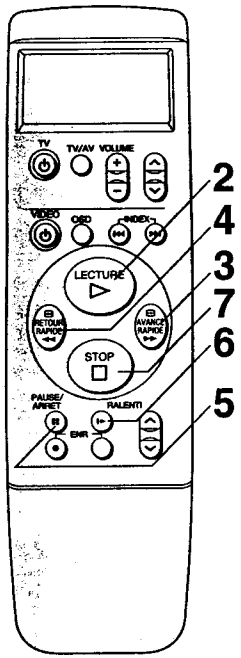
- Dans les cas suivants, l'image de lecture peut présenter des distorsions ou être en noir et blanc: Fonctions de lecture spéciales; bandes de qualité diminuée par de nombreuses lectures; programmes télévisés reçus très faiblement, mais néanmoins enregistrés.

Nota:

- Même si le sélecteur de la norme d'enregistrement est mis sur la position "AUTO", il se peut que la couleur soit instable en fonction de la qualité du signal qui doit être enregistré.
  Si c'est le cas, régler le sélecteur de la norme d'enregistrement sur "SECAM", "PAL" ou "MESECAM" en fonction du standard du signal d'entrée.
- L'affichage sur écran risque d'être perturbé pendant la conversion.

Lecture





	Marche à suivre	Symboles d'affichage	
1			Insérer une cassette enregistrée.
2	LECTURE		Commencer à visionner les images.
3	AVANCE RAPIDE		Pour effectuer une recherche avant, appuyer sur **AVANCE RAPIDE**. ●Pour revenir à la lecture normale, appuyer sur **LECTURE**.
4	RETOUR RAPIDE		Pour effectuer une recherche arrière, appuyer sur **RETOUR RAPIDE**. ●Pour revenir à la lecture normale, appuyer sur **LECTURE**.
5	PAUSE/ ARRET		Effectuer un arrêt sur image. ●Pour reprendre la lecture normale, appuyer sur **LECTURE** ou **PAUSE/ ARRET**.
6	RALENTI		Visionner les images au ralenti. ●Pour reprendre la lecture normale, appuyer sur **LECTURE**.
7	STOP		Arrêter le visionnement des images.

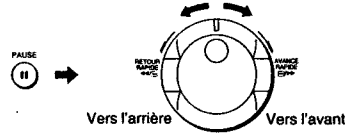
Autres fonctions de lecture

Pour modifier la vitesse de lecture

A l'aide de la bague de fonction navette:

1 Appuyer sur la touche **PAUSE** du magnétoscope.

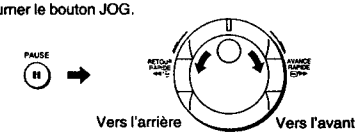
2 Tourner la bague de fonction SHUTTLE.



Pour repérer l'image avec précision

1 Appuyer sur la touche **PAUSE** du magnétoscope.

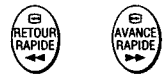
2 Tourner le bouton JOG.



Pour obtenir une image à grande vitesse pendant l'avance rapide ou le rembobinage

Maintenir **AVANCE RAPIDE** enfoncé pendant l'avance rapide.

Maintenir **RETOUR RAPIDE** enfoncé pendant le rebobinage.



Pour lire une section enregistrée de façon répétée

Maintenir **LECTURE** enfoncé pendant plus de 5 secondes.

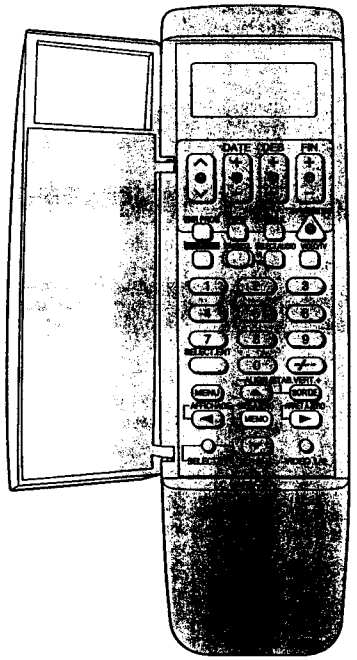
●Appuyer sur **STOP** pour libérer le mode de lecture répétée.

Pour revenir à une séquence donnée

1 Appuyer sur **MISE A ZERO** pour ramener le compteur à 0:00.00.

2 Après la lecture, appuyer sur **ARRET A ZERO** en mode d'arrêt.

●La bande se rembobine ou avance rapidement jusqu'aux alentours de 0:00.00.



Remarques:

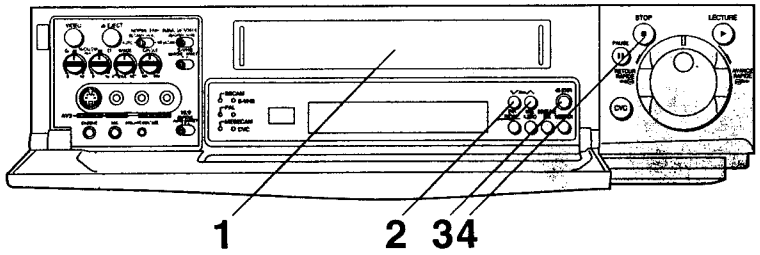
●La reproduction de la piste audio linéaire (enregistrée ordinairement) des bandes s'effectuera en monophonie si la lecture est effectuée sur un magnétoscope FM Hi-Fi.

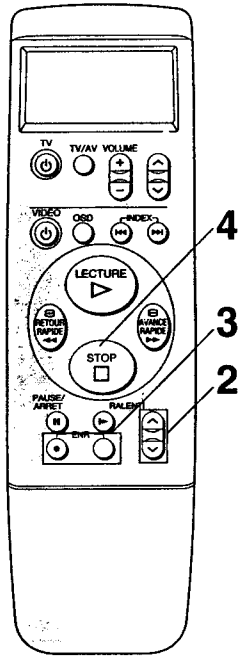
●Le repérage, la revue et la lecture au ralenti se libèrent automatiquement au bout de 10 minutes, et l'arrêt sur image au bout de 5 minutes.

●En mode VL uniquement:

1. Pendant un mode de lecture autre que la lecture normale, il se peut que l'image renferme des barres de parasites, que la couleur soit instable ou que l'image apparaisse en noir et blanc.
2. Pendant la lecture d'une bande qui a été enregistrée sur un autre magnétoscope, il faudra peut-être régler la commande d'alignement. Dans certains cas, l'image sera d'une qualité inférieure. Ceci est dû aux limites du format.

Enregistrement manuel





Marche à suivre	Symboles d'affichage	
1		Insérer une cassette. ●S'il y a déjà une cassette dans le magnétoscope, appuyer sur **VIDEO** pour allumer le magnétoscope.
2		Sélectionner la chaîne de télévision.
3		Commencer l'enregistrement.
4		Arrêter l'enregistrement.

Pour sélectionner la vitesse de bande

Appuyer sur **ENREG. VL/VN** avant l'enregistrement.

Pour interrompre l'enregistrement

Appuyer sur **PAUSE/ARRET** pendant l'enregistrement.
Appuyer à nouveau pour reprendre l'enregistrement.

Pour enregistrer une émission de télévision pendant qu'on en regarde une autre

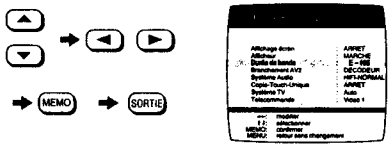
1 Effectuer les opérations **1** à **3** de l'enregistrement manuel.

2 Sur le téléviseur, sélectionner l'émission de télévision que l'on désire regarder.

Pour afficher le temps approximatif de bande restante

1 Sélectionner **Durée de bande** sur l'affichage sur écran, et sélectionner la durée de bande correspondante. Voir page 33.

Affichage sur écran



◄ E-180: Pour les cassettes E30, -60, -90, -120 et -180.
E-195: Pour la cassette E195.
E-240: Pour la cassette E240.
E-260 ►: Pour les cassettes E260 et -300.

2 Appuyer sur **AFFICHAGE**.

→Horloge→Compteur→**Temps de bande restant**

●Le temps de bande restant peut ne pas s'afficher correctement en fonction de la cassette utilisée.

Enregistrement d'émissions stéréo et bilingues

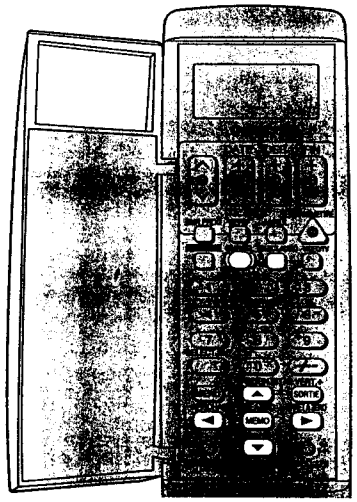
1 Les enregistrements s'effectuent automatiquement en mode stéréo ou bilingue. Ceci permet d'éviter toute erreur de sélection de la langue de doublage ou de la langue originale.

2 Pendant la lecture, appuyer sur **SELECT. AUDIO** pour sélectionner le mode de son voulu. Voir page 5.

Remarques:

●Si l'on insère une cassette vidéo qui n'a plus sa languette de protection, l'indication "ERR" clignote pour signaler que l'enregistrement est impossible.

●Le mode de pause d'enregistrement se libère automatiquement au bout de 5 minutes, et l'appareil commute en mode d'arrêt.



Le système de diffusion NICAM

Le NV-HS900F est également équipé du système de son NICAM.
La système NICAM est un système de diffusion du son à 2 canaux qui offre soit une piste sonore stéréo de haute qualité, soit deux pistes sonores MONO indépendantes, M1 et M2.
Les émissions NICAM sont toujours accompagnées d'une diffusion sonore standard, de façon à permettre la sélection du son à l'aide de **SELECT. AUDIO** à la lecture.

●Le son stéréo numérique NICAM ne peut être enregistré que sur la piste audio Hi-Fi.

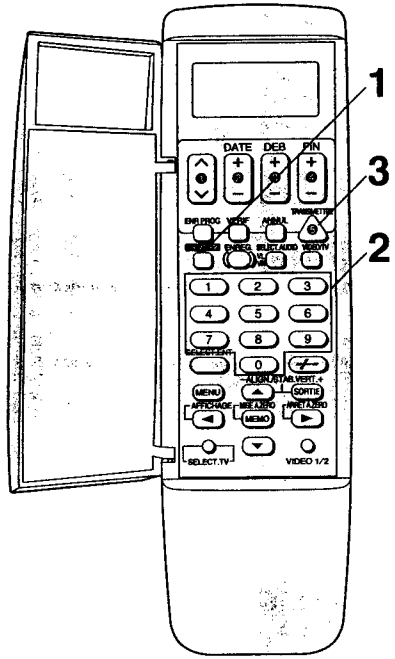
●Pour enregistrer le son ordinaire (son normal ordinaire) sur les pistes audio FM pendant la réception d'une émission stéréo, bilingue ou NICAM, sélectionner **Mono OUI** pendant la procédure d'accord manuel. Voir page 28.

Remarque importante pour le système NICAM
Lorsque le NV-HS900F est mis sous tension, le tuner commute automatiquement sur l'émission NICAM s'il y en a une de diffusée. Pendant les transmissions d'essai, il est possible que le son reçu ne corresponde pas à l'image de l'écran. Pour recevoir un son et une image synchronisés, sélectionner le son monophonique avec le réglage **SELECT. AUDIO** ou **Mono OUI**. Ceci n'est valable que jusqu'à ce que les transmissions NICAM soient devenues totalement opérationnelles.
Actuellement, le signal NICAM est diffusé uniquement sur les canaux stéréo, puisque les formats M1 et M2 ne sont pas encore disponibles. Même si la piste sonore est en monophonie, le témoin Stereo apparaît.

Enregistrement par minuterie

Programmation ShowView

La programmation n'a jamais été aussi facile: il suffit d'entrer le numéro Instant Vidéo qui figure dans les colonnes des programmes de télévision publiés dans les journaux et les magazines.
Les numéros Instant Vidéo sont des numéros qui sont assignés à chacune des émissions des programmes de télévision publiés dans les journaux et les magazines TV. Quand ces numéros sont entrés et qu'on appuie sur **TRANSMETTRE**, ces numéros sont convertis en programmation proprement dite et envoyés au magnétoscope.



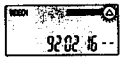
Préparatifs

- Insérer une cassette avec sa languette de protection contre l'effacement accidentel intacte.
- Vérifier que le téléviseur est allumé et qu'il est réglé sur le canal de lecture vidéo.

Marche à suivre **Symboles d'affichage**

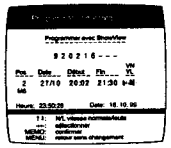
1 Appuyer sur **SHOWVIEW.**

2 Entrer le numéro **SHOWVIEW.**
Exemple: 920216

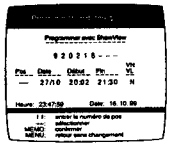


3 Appuyer sur **TRANSMETTRE.**

Affichage sur écran



- Le magnétoscope se mettra en mode d'attente d'enregistrement par minuterie au bout d'une minute environ.
- Si l'indication "—" apparaît pour le canal:



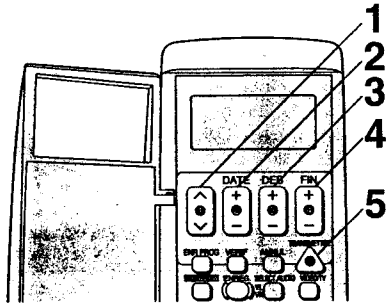
Sélectionner le canal du magnétoscope qui reçoit la chaîne de télévision entrée au point **2** à l'aide de la touche ▲ ou ▼.

- Pour reculer l'heure de fin ou effectuer des corrections, utiliser les touches ▲ ▼ ◄ ►.

Remarques:

- Pour libérer le mode d'attente, appuyer sur **ENR PROG.**
- Lorsqu'on effectue la programmation avec le numéro Instant Vidéo, la durée d'enregistrement risque d'être légèrement plus longue que la durée réelle de l'émission.
- Pour programmer deux émissions ou plus, recommencer les opérations **1** à **3**.
- Les procédures de vérification et d'annulation d'une programmation de minuterie sont les mêmes que celles de la page 21.

Utilisation de la télécommande



Exemple:

Canal du magnétoscope;	2
Date;	27 octobre
Heure de début;	20h 02
Heure de fin;	21h 30

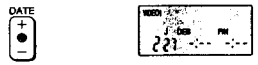
Préparatifs

- Insérer une cassette avec sa languette de protection contre l'effacement accidentel intacte.
- Ouvrir le volet de la télécommande.

Marche à suivre **Symboles d'affichage**

1 Régler le canal du magnétoscope sur "2".

2 Régler la date sur "27".



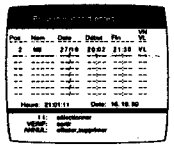
3 Régler l'heure de début sur "20:02".

- Quand on maintient la touche enfoncée, l'indication change par tranches de 30 minutes.

4 Régler l'heure de fin sur "21:30".

5 Appuyer sur **TRANSMETTRE.**

Affichage sur écran



- Le magnétoscope se mettra en mode d'attente d'enregistrement au bout de 10 secondes environ.
- Pour libérer le mode d'attente, appuyer sur **ENR PROG.**

Enregistrement par minuterie hebdomadaire

Au point **2**, sélectionner le jour en appuyant sur **DATE** —.
Exemple: DI (dimanche)

(DI=dimanche, LU=lundi, MA=mardi, ME=mercredi, JE=jeudi, VE=vendredi, SA=samedi)

Enregistrement par minuterie quotidien

Pour cette fonction de la minuterie, il existe plusieurs groupes de jours au choix.

Ⓐ Enregistrement quotidien du lundi au vendredi
Ⓑ Enregistrement quotidien du lundi au samedi
Ⓒ Enregistrement quotidien du dimanche au samedi

Au point **2**, sélectionner les jours en appuyant sur **DATE** —.
Exemple: Ⓒ

Enregistrement par minuterie à partir d'une source de signal externe

Si l'enregistrement par minuterie est effectué via un appareil raccordé aux prises AV1 (TV) ou AV2 (DECODEUR/EXT) ou AV3 (ENT AUDIO/ENT VIDEO/ ENT S-VIDEO), sélectionner le témoin **A1**, **A2** ou **A3** pour le canal du magnétoscope.

Sélection de la vitesse de bande

Appuyer sur **ENREG. VL/VN** à l'une quelconque des opérations **2** à **4**.

Vérification et annulation d'un programme de la minuterie

Les procédures de vérification et d'annulation d'un programme de minuterie sont les mêmes que celles de la page 21.

Utilisation de l'affichage sur écran

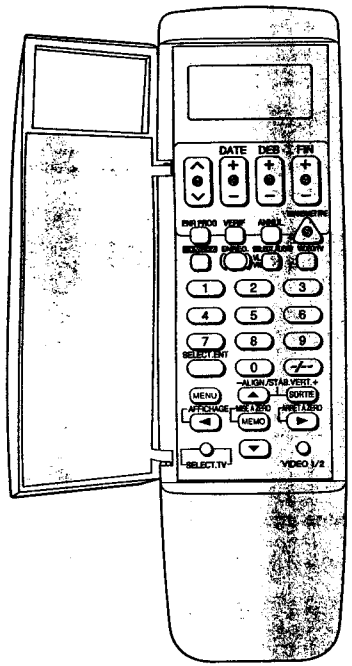
Il est possible d'enregistrer un maximum de 8 programmes jusqu'à un mois à l'avance en réglant la minuterie, y compris des programmes hebdomadaires et des programmes quotidiens.

Préparatifs

- Insérer une cassette avec sa languette de protection contre l'effacement accidentel intacte.
- Vérifier que le téléviseur est allumé et qu'il est réglé sur le canal de lecture vidéo.

Exemple:

Canal du magnétoscope;	2
Date;	27 octobre
Heure de début;	20h 02
Heure de fin;	21h 30
(Date actuelle; 16 octobre)	



Suivre les instructions qui apparaissent à l'écran.

Marche à suivre

1 Appuyer sur **MENU**, puis sélectionner **Programmation d'enreg.**.

2 Sélectionner un programme libre.

3 Régler le **canal du magnétoscope (Pos)** sur "2".
- Appuyer sur ◀ pour revenir au paramètre précédent.

4 Régler la **Date** sur "27/10".

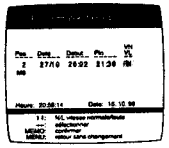
5 Régler l'**heure de début (Début)** sur "20:02".
- Quand on maintient la touche enfoncée, l'indication change par tranches de 30 minutes.

6 Régler l'**heure de fin (Fin)** sur "21:30".

7 Sélectionner la **vitesse de bande (VN/VL)**.

8 Appuyer sur **MEMO**.

Affichage sur écran



9 Pour activer l'enregistrement par minuterie, appuyer sur **ENR PROG**.

Enregistrement par minuterie hebdomadaire

Au point **4**, sélectionner le jour en appuyant sur ▼.

Enregistrement par minuterie quotidien

Pour cette fonction de la minuterie, il existe plusieurs groupes de jours au choix.

Ⓐ Enregistrement quotidien du lundi au vendredi

Ⓑ Enregistrement quotidien du lundi au samedi

Ⓒ Enregistrement quotidien du dimanche au samedi

Au point **4**, sélectionner les jours voulus en appuyant sur ▼.

Enregistrement par minuterie à partir d'une source de signal externe

Si l'enregistrement par minuterie est effectué via un appareil raccordé aux prises AV1 (TV), AV2 (DECODEUR/EXT) ou AV3 (ENT AUDIO/ENT VIDEO/ ENT S-VIDEO), sélectionner le témoin A1, A2 ou A3 pour le canal du magnétoscope.

Réglage d'autres programmes à la suite

Recommencer les opérations **2** à **8**.

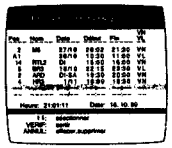
Vérification d'un programme de la minuterie

- Le magnétoscope doit être sous tension, ou le témoin d'enregistrement par minuterie "⏲" doit être allumé.
- Vérifier que le téléviseur est allumé et qu'il est réglé sur le canal de lecture vidéo.

Appuyer sur **VERIF**.

VERIF

Affichage sur écran



Annulation d'un programme de la minuterie

- Le magnétoscope doit être sous tension, ou le témoin d'enregistrement par minuterie "⏲" doit être allumé.
- Vérifier que le téléviseur est allumé et qu'il est réglé sur le canal de lecture vidéo.

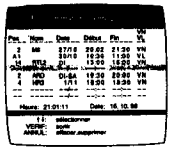
1 Appuyer sur **VERIF**.

VERIF

2 Sélectionner le programme de minuterie voulu.

3 Appuyer sur **ANNUL**.

ANNUL

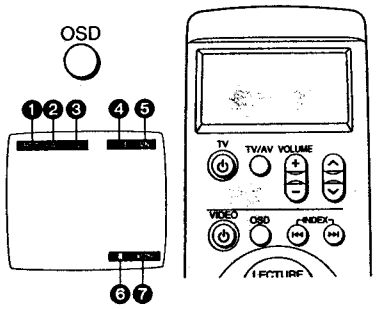


Remarque:
Si l'enregistrement par minuterie ne s'est pas effectué jusqu'à la fin (par insuffisance de bande ou annulation par l'utilisateur), les données de programmation de l'enregistrement par minuterie s'effaceront de la mémoire à 4h du matin le lendemain.
Toutefois, si la fonction d'enregistrement par minuterie est activée à ce moment, les données de programmation de l'enregistrement par minuterie s'effaceront à 4h du matin le lendemain.

Autres fonctions

Affichage sur écran

Appuyer sur **OSD** pour faire apparaître l'affichage sur écran sur le téléviseur.



❶ **Chaîne de télévision**

❷ **Système de télévision**

❸ **Témoin Stereo, M1 et M2**
A la réception d'une émission de télévision, le type du système de diffusion sonore est automatiquement affiché.

❹ **Témoins de mode de sortie audio**
Les témoins gauche (G) et droit (D) indiquent le mode de son sélectionné avec **SELECT. AUDIO**.
Stéréo: Les deux témoins G et D apparaissent.
Gauche: Le témoin G apparaît.
Droit: Le témoin D apparaît.
Normal: Les deux témoins G et D sont éteints.

❺ **Témoin de vitesse de bande**

❻ **Affichage de défilement de la bande**

Arrêt, éjection	▮
Rebobinage	◀◀
Avance rapide	▶▶
Lecture	▶
Enregistrement	●
Lecture répétée	R
Montage par insertion	INSERTION
Montage par insertion AV	INSERTION AV
Postsynchronisation audio	DOUBLAGE SON

❼ **Heure actuelle/compteur de bande**

Information	Affichage
Heure actuelle	17:24:31
Compteur de bande	−2:35.47
Temps de bande restant	RESTE 2:34

Remarques:
- L'affichage sur écran risque d'être brouillé ou de disparaître pendant une lecture spéciale.
- Si le paramètre **"Affichage écran"** a été réglé sur ARRET, l'affichage sur écran n'apparaît pas. (Voir page 32.)

Système de recherche d'index VHS

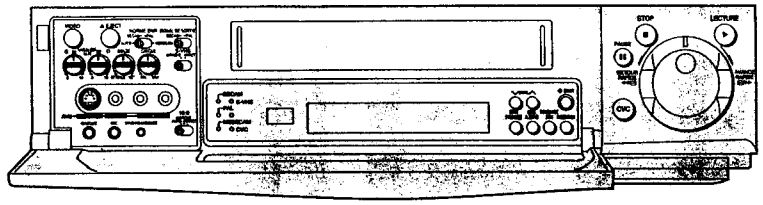
Il est extrêmement facile de retrouver le début des enregistrements, car un signal d'index spécial s'enregistre au début de chaque segment enregistré sur la bande.

Exemple:
Pour rechercher le 2ème segment enregistré en sens avant.

Appuyer deux fois sur **INDEX ▶▶I**.

- Lorsque le segment voulu a été repéré, la lecture commence automatiquement.
- Pour faire défiler la bande en sens inverse, appuyer sur **INDEX I◀◀**.
- Il est possible de rechercher un maximum de 20 signaux d'index dans les deux sens.
- Lorsqu'on appuie sur la touche **INDEX** opposée, le numéro diminue jusqu'à 1.
- Le chiffre de l'afficheur diminue d'une unité chaque fois qu'un signal d'index est repéré.
- La fonction de recherche d'index ne s'effectuera correctement que si les signaux d'index sont espacés d'au moins 3 minutes les uns des autres en mode VN, et d'au moins 5 minutes en mode VL.

Enregistrement des signaux d'index
Des signaux d'index s'enregistrent dans les cas suivants:
- Lorsqu'on commence un enregistrement en appuyant sur la touche **ENR**.
- Lorsqu'on appuie sur **ENR** pendant l'enregistrement.
- Lorsque l'enregistrement par minuterie est activé.



Lecture NTSC

Les cassettes enregistrées au standard NTSC pourront être lues sur ce magnétoscope via un téléviseur au standard PAL.
- L'image de lecture peut deffiler de haut en bas et vice versa. Si le téléviseur est équipé d'une commande de verrouillage vertical de l'image, il sera possible d'arrêter le mouvement de l'image avec cette commande.
- En fonction du téléviseur utilisé, l'image pourra être en noir et blanc. Cependant, ceci n'indique pas un mauvais fonctionnement de l'appareil.
- ⚠ L'image de cette lecture ne peut en aucun cas être enregistrer sur un magnétoscope PAL/SECAM.

Autres fonctions automatiques

Lecture automatique
Quand on insère une cassette qui n'a plus sa languette de protection contre l'effacement, le magnétoscope commence automatiquement la lecture.

Lecture magnétoscope éteint
Si le magnétoscope est éteint, on pourra lire la cassette insérée en appuyant sur **LECTURE**.

Rembobinage automatique
Quand la cassette arrive en fin de bande pendant un enregistrement (sauf pendant un enregistrement par minuterie) ou une lecture, elle se rebobine automatiquement jusqu'au début.

Extinction et éjection automatiques
Si le magnétoscope est éteint, il est possible d'éjecter la cassette qui y est insérée simplement en appuyant sur **EJECT**. Le magnétoscope éjectera la cassette et il s'éteindra automatiquement de lui-même.

Montage

Montage par assemblage

Cette fonction permet de monter une bande à partir d'autres enregistrements ou sources vidéo.

Une nouvelle séquence pourra être ajoutée à la fin de la séquence précédente.

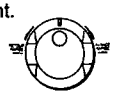
Préparatifs

- Raccorder un caméscope ou un autre magnétoscope à ce magnétoscope, comme indiqué.
- Insérer une cassette enregistrée avec sa languette de protection contre l'effacement accidentel intacte.
- Sélectionner la source vidéo en appuyant sur **SELECT. ENT** pour régler A1, A2 ou A3.
  - A1: Via la prise AV1 (TV).
  - A2: Via la prise AV2 (DECODEUR/EXT).
  - A3: Via les prises AV3 (ENT AUDIO/ENT VIDEO/ENT S-VIDEO) du panneau avant.

Marche à suivre

1 Appuyer sur **PAUSE** du magnétoscope d'enregistrement.

2 Rechercher la fin de l'enregistrement précédent.



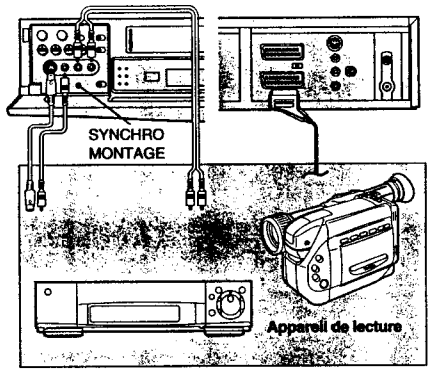
3 Appuyer sur **ENR** pour commuter le magnétoscope du mode de pause au mode d'attente d'enregistrement.

4 Commencer le nouvel enregistrement en appuyant à nouveau sur **PAUSE**.

5 Appuyer sur **STOP** pour arrêter l'enregistrement.

Remarque:
Le nouveau son s'enregistrera à la fois sur les pistes audio normale et Hi-Fi, mais les sons monophoniques ne s'enregistreront que sur la piste audio normale.

Magnétoscope d'enregistrement



Montage synchronisé

Il est possible de synchroniser le démarrage et l'arrêt de la lecture sur le caméscope avec le démarrage et l'arrêt de l'enregistrement sur le magnétoscope.

Préparatifs

- Raccorder un caméscope au magnétoscope à l'aide d'un cordon de raccordement synchronisé (VW-K1E).
- Enclencher **Copie-Touche-Unique** sur ARRET pour effectuer un montage synchronisé. (Voir page 34.)

1 Mettre le magnétoscope en mode de pause d'enregistrement en appuyant sur la touche **ENR** et sur la touche **PAUSE**.

2 Mettre le caméscope en mode d'arrêt sur image au point où l'on veut commencer le montage.

3 Appuyer sur la touche **PAUSE** du magnétoscope.
- Le caméscope passe en mode de lecture et la postsynchronisation commence automatiquement.

Montage synchronisé entre deux magnétoscopes
Si l'on effectue le montage à partir d'un autre magnétoscope équipé d'une prise de montage synchrone, on pourra obtenir un démarrage et un arrêt synchronisés des deux magnétoscopes sur ce magnétoscope.

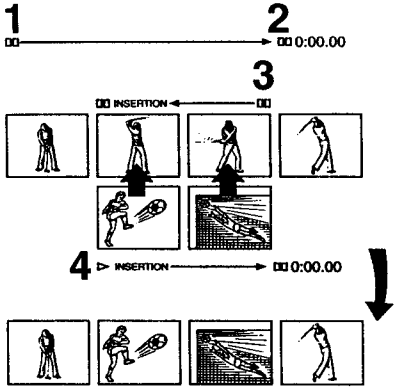
Les opérations sont les mêmes que pour le montage synchronisé avec un caméscope.

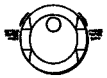
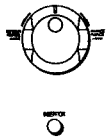
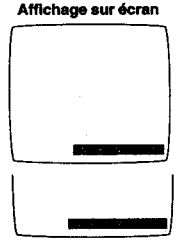
Montage par insertion

Cette fonction permet de remplacer une séquence par une autre.

Préparatifs

- Mettre une cassette enregistrée avec sa languette de protection contre l'effacement intacte dans le magnétoscope.
- Sélectionner la source vidéo en appuyant sur **SELECT. ENT** pour régler A1, A2 ou A3.
  - A1: Via la prise AV1 (TV).
  - A2: Via la prise AV2 (DECODEUR/EXT).
  - A3: Via les prises AV3 (ENT AUDIO/ENT VIDEO/ENT S-VIDEO) du panneau avant.



Marche à suivre	Symboles d'affichage	
1		Appuyer sur **PAUSE** du magnétoscope d'enregistrement.
2 		Rechercher le point de sortie (arrêt) du montage et ramener le compteur à 0:00.00 en appuyant sur la touche **MISE A ZERO**.
3 	**Affichage sur écran** 	Rechercher le point d'entrée (démarrage) du montage et appuyer sur la touche **INSERTION**. • Si l'on désire remplacer également le son, appuyer sur la touche **DOUBLAGE SON**. (Montage par insertion AV)
4		Commencer le montage par insertion en appuyant sur la touche **PAUSE**. • Le montage par insertion est terminé quand le compteur atteint les chiffres 0:00.00.

Remarque:
Le montage par insertion n'est pas possible sur les sections non enregistrées d'une bande.

Le nouveau son s'enregistrera sur la piste audio Hi-Fi. Si l'on a sélectionné la fonction DOUBLAGE SON, le nouveau son s'enregistrera également sur la piste audio normale.

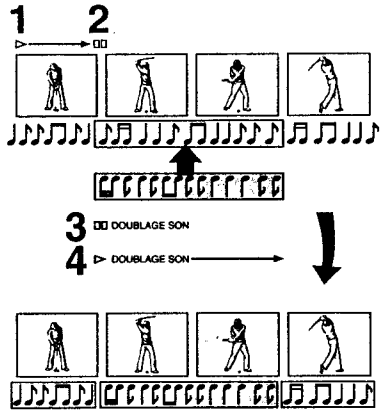
Le son monophonique s'enregistrera sur la piste audio normale.

Postsynchronisation audio

La postsynchronisation audio se fait sur la piste son normale et elle efface le son de cette piste. Cependant, sur les pistes Hi-Fi, le son reste le même.

Préparatifs

- Mettre une cassette enregistrée avec sa languette de protection contre l'effacement intacte dans le magnétoscope.
- Sélectionner la source vidéo en appuyant sur **SELECT.**
  ENT pour régler A1, A2 ou A3.
  A1: Via la prise AV1 (TV).
  A2: Via la prise AV2 (DECODEUR/EXT).
  A3: Via les prises AV3 (ENT AUDIO) du panneau avant.



Marche à suivre	Symboles d'affichage	
1 LECTURE		Rechercher le point de démarrage de la postsynchronisation audio.
2 PAUSE		Appuyer sur la touche **PAUSE** au point de démarrage.
3 DOUBLAGE SON	Affichage sur écran	Régler l'appareil pour la postsynchronisation audio en appuyant sur la touche **DOUBLAGE SON**. • Sur certains téléviseurs, l'image de l'écran peut devenir instable ou se mettre à défiler à ce stade. Cependant, ceci n'indique pas un mauvais fonctionnement de l'appareil.
4 PAUSE		Commencer l'enregistrement du nouveau son en appuyant sur la touche **PAUSE**. • Pour arrêter l'enregistrement, appuyer sur la touche **STOP**.

Remarque:
Le nouveau son s'enregistre sur la piste audio normale, et le son original reste sur la piste audio Hi-Fi. Le son monophonique s'enregistrera sur la piste audio normale.

Pour écouter le nouveau son, sélectionner la piste audio normale en appuyant sur la touche **SELECT. AUDIO**. Pour écouter le nouveau son et le son original mélangés ensemble, régler la touche **Système Audio** sur HIFI-MIX. (Voir page 33.)

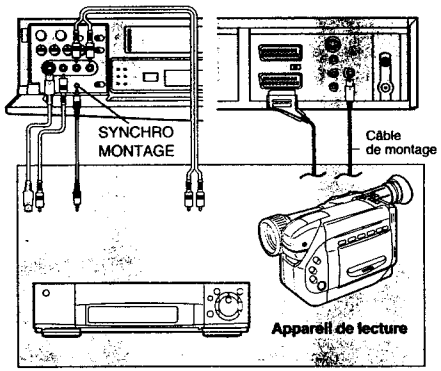
Montage à une touche

Avec ce type de montage, les opérations répétées de montage par assemblage, montage par insertion, montage par insertion AV ou postsynchronisation audio s'effectueront en toute facilité.

Préparatifs

- Avant de procéder aux raccordements, vérifier que le cordon secteur de chacun des deux magnétoscopes a été raccordé.
- Avant de raccorder le magnétoscope à un caméscope ou à un autre magnétoscope, sélectionner **Copie-Touche-Unique** sur MARCHE. (Voir page 34.) L'afficheur du magnétoscope de lecture ou l'image du viseur du caméscope pourront être anormaux si le câble de montage est raccordé alors que la fonction de **Copie-Touche-Unique** reste désactivée (ARRET).
- Raccorder un caméscope ou un autre magnétoscope à ce magnétoscope, comme indiqué.
- Utiliser la prise **SYNCHRO MONTAGE** pour raccorder l'appareil à un magnétoscope ou à un caméscope équipé d'une prise LANC.
- Insérer une cassette enregistrée avec sa languette de protection contre l'effacement accidentel intacte.
- Sélectionner la source vidéo en appuyant sur **SELECT. ENT** pour régler A1, A2 ou A3.
  A1: Via la prise AV1 (TV).
  A2: Via la prise AV2 (DECODEUR/EXT).
  A3: Via les prises AV3 (ENT AUDIO/ENT VIDEO/ENT S-VIDEO) du panneau avant.
- Lorsque le montage à une touche est terminé, débrancher le câble de montage.

Magnétoscope d'enregistrement

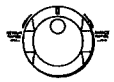


Marche à suivre

1 Appuyer sur **PAUSE** du magnétoscope d'enregistrement.

PAUSE

2 Rechercher la fin de l'enregistrement précédent.

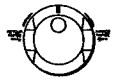


3 Appuyer sur **ENR** pour commuter le magnétoscope du mode de pause au mode d'attente d'enregistrement.

ENR

- Le magnétoscope de lecture commute en mode d'arrêt sur image.
- Si l'on appuie sur **INSERTION** ou sur **DOUBLAGE SON** au lieu de **ENR**, on pourra effectuer un montage par insertion, montage par insertion AV ou une postsynchronisation audio.

4 Rechercher le point d'entrée (début) du montage sur l'appareil de lecture.



5 Déclencher le montage à une touche en appuyant à nouveau sur **PAUSE**.

PAUSE

6 Appuyer sur **PAUSE** au point de sortie (fin) du montage sur le magnétoscope de lecture.

PAUSE

- Pour effectuer plusieurs montages à la suite, recommencer les opérations **4** à **6**.

7 Appuyer sur **STOP** pour arrêter le montage.

STOP

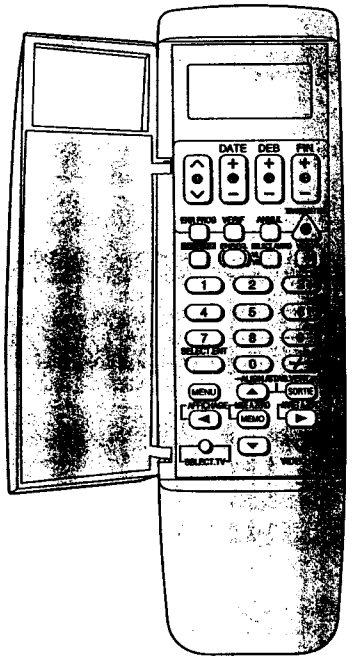
Mémorisation des chaînes de télévision dans le magnétoscope

Introduction

Le magnétoscope possède son propre tuner (exactement comme un téléviseur ordinaire) qui pourra être réglé pour recevoir un maximum de 99 chaînes de télévision.
Si le magnétoscope n'a pas été correctement accordé avec la configuration automatique, effectuer les opérations ci-dessous.

Préparatifs

- Vérifier que le téléviseur est allumé.
- Allumer le magnétoscope.



Procédure d'accord manuel

Suivre les instructions qui apparaissent sur l'écran.

Marche à suivre

1 Appuyer sur **MENU**.

2 Sélectionner **Réglages**.

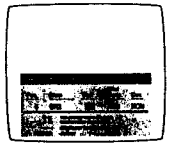
3 Sélectionner **Réglage canaux**.

4 Sélectionner **Manuel**.

5 Sélectionner le programme du magnétoscope.

6 Sélectionner le canal **(Can)**.

Affichage sur écran



7 Sélectionner **Dec OUI** ou **Dec NON**.

OUI: Pour prérégler les chaînes de télévision payantes.

NON: Pour prérégler les chaînes de télévision ordinaires.

8 Utiliser ◄ ► pour faire apparaître l'écran suivant.
Sélectionner le système de télévision **(TV-System)**.

PAL: Pour la réception des signaux PAL B.G.H ou SECAM B.G.

SECAM: Pour la réception des signaux SECAM L.

9 Sélectionner **Mono NON**.

- Sélectionner **Mono OUI** pour enregistrer le son normal pendant la diffusion d'une émission stéréo, bilingue ou NICAM, ou si le son stéréo est déformé à cause de la médiocrité des conditions de réception.

10 Appuyer sur **MENU**, puis appuyer sur **SORTIE**.

Tableau des canaux

Indication de canal	Chaîne de télévision	
	France	Autres pays
2–4	2–4	E2–E4
5–10	5–10	E5–E10
11–12	—	E11–E12
21–69	21–69	E21–E69
74–76	—	S1–S3
80–83	—	M1–M4
84–89	B–G (113,25–180,25 MHz) (INTER BANDE)	M5–M10
90–99	H–Q (185,25–300,25 MHz) (INTER BANDE)	U1–U10
121–141	S21–S41 (299,25–467,25 MHz) (HYPER BANDE)	S21–S41

Pour modifier le canal du magnétoscope ou le nom de la chaîne de télévision:

Après le point **5** mais avant le point **8**, sélectionner le paramètre **Pos** (canal du magnétoscope) ou **Nom** (nom de la chaîne de télévision) à l'aide de ◄ ►, et effectuer la modification voulue.

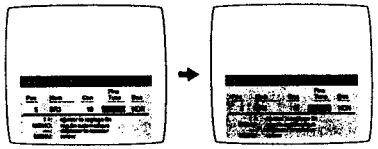
Procédure d'accord fin

Effectuer les opérations **1** à **5** de la page 28.

6 Sélectionner **Fine Tune**.

7 Appuyer sur ▲ ou ▼ pour obtenir l'accord optimal.
- Pour ramener l'accord à son état précédent, appuyer sur **MEMO**.

Affichage sur écran



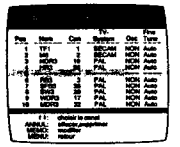
8 Appuyer sur **MENU**, puis appuyer sur **SORTIE**.

Suppression des canaux inoccupés

Effectuer les opérations **1** à **4** de la page 28.

5 Sélectionner la chaîne de télévision voulue.

6 Appuyer sur **ANNUL**.



- Recommencer les opérations **5** et **6** pour chacun des autres canaux inoccupés que l'on désire sauter pendant l'exploration des canaux du magnétoscope.

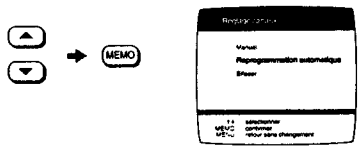
7 Appuyer sur **SORTIE**.

Redémarrage de la configuration automatique

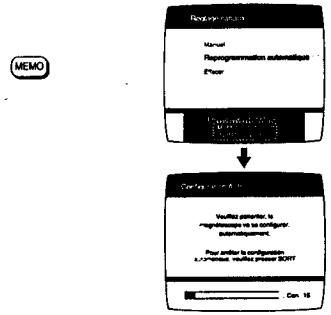
Lorsqu'on change d'adresse, suivre la procédure ci-dessous:
Effectuer les opérations **1** à **3** de la page 28.

4 Sélectionner **Reprogrammation automatique**.

Affichage sur écran



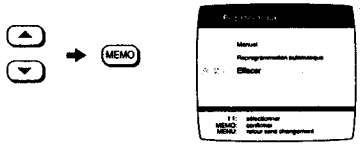
5 Appuyer sur **MEMO**.



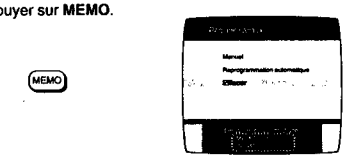
Les réglages usine de l'appareil

Si l'on désire ramener l'appareil aux réglages usine, procéder comme suit.
Effectuer les opérations **1** à **3** de la page 28.

4 Sélectionner **Effacer**.



5 Appuyer sur **MEMO**.



6 Appuyer à nouveau sur **MEMO**.

Remarque:
Pour resyntoniser le magnétoscope, débrancher le cordon secteur puis le rebrancher. Si le magnétoscope est éteint, l'allumer. La configuration automatique commence.

Réglage de l'horloge du magnétoscope

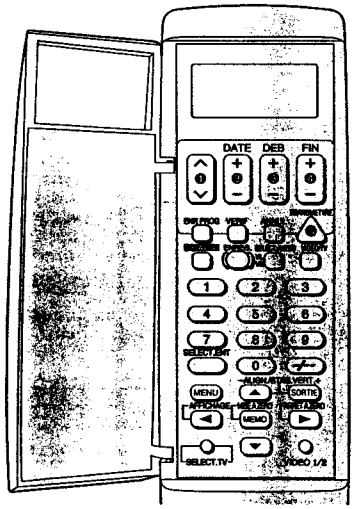
L'horloge incorporée permet de déclencher la minuterie en vue d'un enregistrement automatique; elle devra donc être réglée à l'heure exacte.

L'horloge numérique incorporée fonctionne sur un cycle de 24 heures.

Si le magnétoscope n'a pas été correctement réglé avec la configuration automatique, effectuer les opérations ci-dessous.

Préparatifs

- Vérifier que le téléviseur est allumé et qu'il est réglé sur le canal de lecture vidéo.
- Allumer le magnétoscope.



Réglage manuel de l'horloge

Suivre les instructions qui apparaissent à l'écran.

Marche à suivre

1 Appuyer sur **MENU**, puis sélectionner **Réglages**.

2 Sélectionner **Date et heure**.

3 Sélectionner **Réglage manuel**.

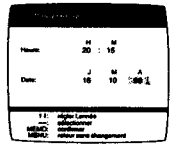
4 Régler **l'heure (H/M)**.
- Quand on maintient la touche enfoncée, l'indication change par tranches de 30 minutes.
- Appuyer sur ◀ pour revenir au paramètre précédent.

5 Régler le **Jour (J)**.

6 Régler le **mois (M)**.

7 Régler **l'année (A)**.
- Il n'est pas nécessaire d'appuyer sur ▶.

Affichage sur écran



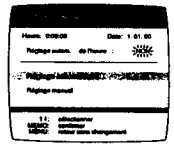
8 Appuyer sur **MEMO**.
- L'horloge commence à fonctionner.

9 Appuyer sur **SORTIE**.

Réglage automatique de l'horloge

Effectuer les opérations **1** et **2** de la procédure ci-dessus.

3 Sélectionner **Réglage automatique**.



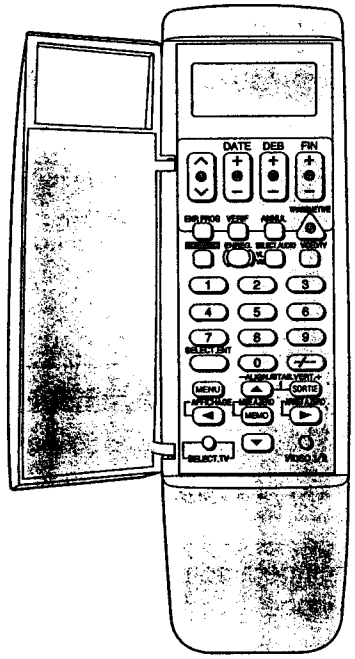
4 Appuyer sur **MEMO**.
- L'horloge se règle automatiquement.

Remarques:
- En cas de panne de courant, l'horloge continuera de fonctionner pendant au moins 60 minutes avec son alimentation de secours.
- Si le paramètre **"Réglage autom. de l'heure"** est réglé sur "OUI" à l'écran, la fonction de correction automatique de l'heure entre en service.

Réglages au moyen de l'affichage sur écran

Préparatifs

- Vérifier que le téléviseur est allumé et qu'il est réglé sur le canal de lecture vidéo.
- Allumer le magnétoscope.

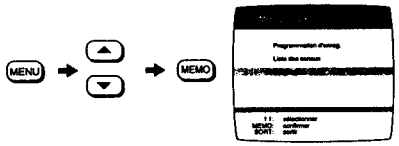


Fonctions du magnétoscope

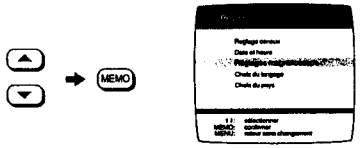
Affichage sur écran

1 Appuyer sur **MENU**, puis sélectionner **Réglages**.

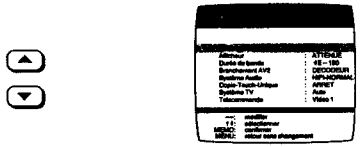
Affichage sur écran



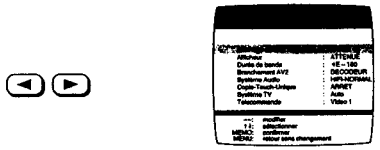
2 Sélectionner **Réglages magnétoscope**.



3 Sélectionner **Affichage écran**.



4 Sélectionner **MARCHE** ou **ARRET**.

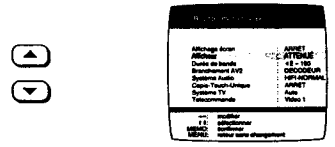


MARCHE: L'affichage sur écran apparaît sur le téléviseur lorsqu'on appuie sur **OSD**.
ARRET: L'affichage sur écran n'apparaît pas, même si l'on appuie sur **OSD**.

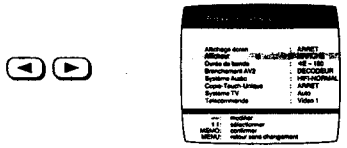
Afficheur du magnétoscope

1 Sélectionner **Afficheur**.

Affichage sur écran



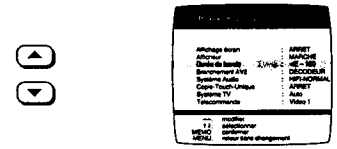
2 Sélectionner **MARCHE, ARRET** ou **ATTENUÉ**.



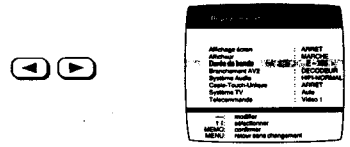
MARCHE: Lorsque le magnétoscope est éteint, les caractères sont allumés sur l'afficheur du magnétoscope.
ARRET: Lorsque le magnétoscope est éteint, les caractères sont éteints sur l'afficheur du magnétoscope.
ATTENUÉ: Lorsque le magnétoscope est éteint, les caractères sont assombris sur l'afficheur du magnétoscope.

Sélection de la longueur de bande pour permettre l'affichage du temps restant de la bande

1 Sélectionner **Durée de bande**.



2 Sélectionner la durée de bande correspondante.



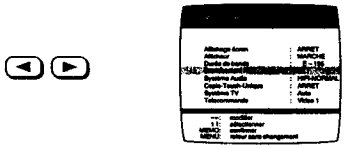
◀ E-180: Pour les cassettes E30, -60, -90, -120 et -180.
E-195: Pour la cassette E195.
E-240: Pour la cassette E240.
E-260 ▶: Pour les cassettes E260 et -300.

- Les temps affichés peuvent différer en fonction de la cassette utilisée.

Raccordement AV2

1 Sélectionner **Branchement AV2**.

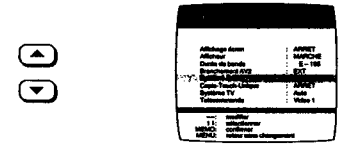
2 Sélectionner **EXT** ou **DECODEUR**.



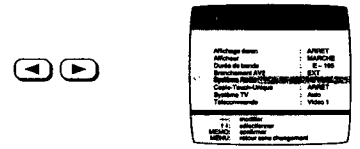
EXT: Pour raccorder un second magnétoscope à la prise AV2 (DECODEUR/EXT).
DECODEUR: Si le décodeur est raccordé à la prise AV2 (DECODEUR/EXT).

Système Audio

1 Sélectionner **Système Audio**.



2 Sélectionner **HIFI-NORMAL** ou **HIFI-MIX**.

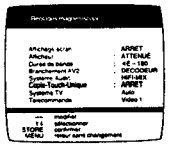


HIFI-NORMAL: Normalement, régler sur cette position pour reproduire le meilleur son possible d'une piste Hi-Fi.
HIFI-MIX: Les deux pistes audio (la piste Hi-Fi et la piste normale) sont reproduites mélangées. Utiliser ce réglage pour lire une cassette où l'on a effectué un montage par insertion ou une postsynchronisation audio.

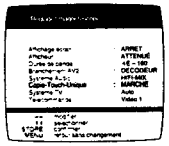
Montage à une touche

1 Sélectionner **Copie-Touch-Unique**.

Affichage sur écran



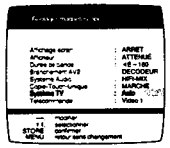
2 Sélectionner **MARCHE** ou **ARRET**.



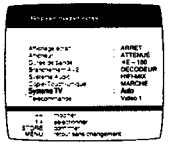
MARCHE: Pour un montage à une touche.
ARRET: Pour un montage à l'aide d'un contrôleur de montage ou un montage synchronisé.

Réglage du système de télévision couleur

1 Sélectionner **Système TV**.



2 Sélectionner **Auto**, **SECAM**, **PAL** ou **MESECAM**.

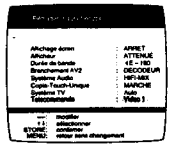


●Régler en fonction du système de télévision du signal d'entrée externe.

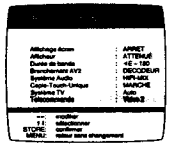
Système de télévision	Signal d'entrée externe
Auto	SECAM/PAL automatique
SECAM	SECAM
PAL	PAL
MESECAM	MESECAM

Mode de télécommande

1 Sélectionner **Telecommande**.



2 Sélectionner **Video 1** ou **Video 2**.



3 Appuyer sur **MEMO**.

Video 1: Mettre sur cette position à la fois sur le magnétoscope et sur la télécommande pour une utilisation ordinaire avec un téléviseur.
Video 2: Mettre sur cette position pour utiliser deux magnétoscopes Panasonic.
Ceci permet de régler la télécommande pour qu'elle pilote le magnétoscope 1 ou magnétoscope 2.

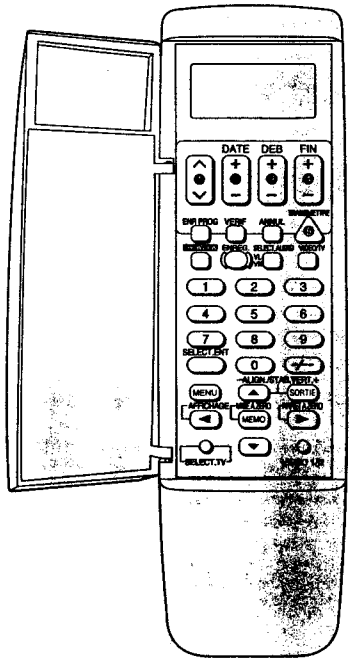
●Après avoir changé le mode de télécommande, appuyer sur **VIDEO 1/2** pour changer le mode de télécommande de la télécommande. Sinon, il ne sera pas possible de piloter le magnétoscope avec la télécommande.

Lorsque tous les réglages sont terminés

Appuyer sur **MEMO**, puis appuyer sur **SORTIE** pour faire disparaître l'affichage sur écran.

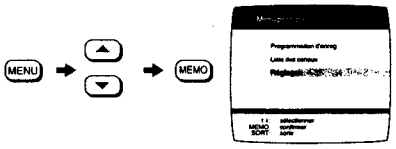
Sélection de la langue

Pour changer la langue de l'affichage sur écran, effectuer les opérations ci-dessous.

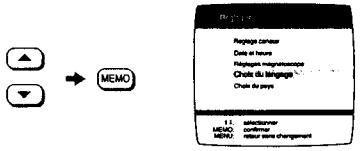


1 Appuyer sur **MENU**, puis sélectionner **Réglages**.

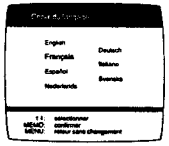
Affichage sur écran



2 Sélectionner **Choix du langage**.



3 Sélectionner la langue de son choix.

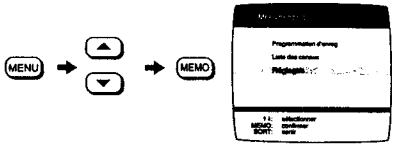


4 Appuyer sur **MEMO**, puis appuyer sur **SORTIE**.

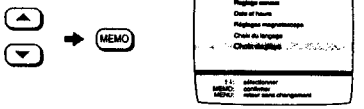
Sélection du pays

Pour changer le réglage du pays, effectuer les opérations ci-dessous.

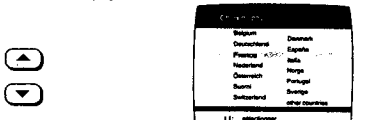
1 Appuyer sur **MENU**, puis sélectionner **Réglages**.



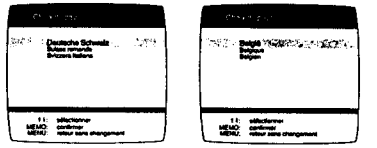
2 Sélectionner **Choix du pays**.



3 Sélectionner le pays voulu.



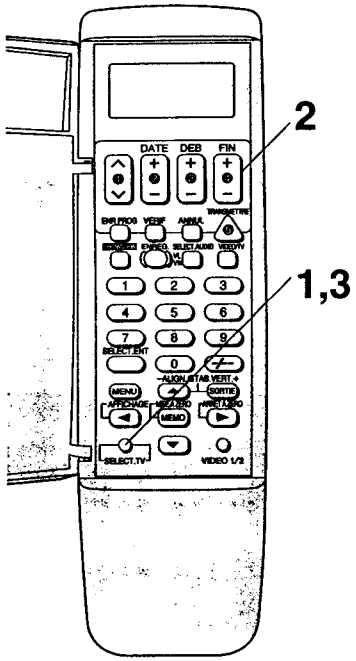
●Lorsqu'on sélectionne la Switzerland ou la Belgium, le fonctionnement se déplace à l'écran suivant. Sélectionner le paramètre en fonction de la langue voulue.



4 Appuyer sur **MEMO**, puis appuyer sur **SORTIE**.

Réglage de la télécommande en vue du fonctionnement du téléviseur

Il est possible de piloter certaines marques de téléviseur (voir page suivante) à l'aide de la télécommande en la configurant comme suit.



Préparatifs
Allumer le téléviseur.

Marche à suivre **Symboles d'affichage**

1 Maintenir **SELECT. TV** enfoncé pendant plus de 2 secondes.

2 Appuyer plusieurs fois sur **FIN**.

- Lorsque le numéro correspond au fabricant du téléviseur, le téléviseur s'éteint.

Lire également toutes les informations de la page suivante.

3 Appuyer sur **SELECT. TV**.

Pour changer le numéro
Chaque fois qu'on appuie sur le côté "+" de la touche **FIN**, le numéro augmente d'une unité comme suit:

→1→2→3...28

Lorsqu'on appuie sur le côté "–", le numéro diminue d'une unité, dans l'ordre inverse de l'ordre précédent.

Remarque:
Certains modèles de téléviseur ne pourront pas être pilotés avec cette télécommande.

Numéro	Fabricant
1–4	Panasonic
5	GRUNDIG, Blaupunkt, SIEMENS
6	PHILIPS, LOEWE, SAMSUNG, RADIOLA, DUAL, PYE, BUSH, GOODMANS, ELEMIS, CURTIS
7	SONY
8	METZ
9*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
10*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS
11*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
12*	FERGUSON, TELEFUNKEN, GOODMANS, SABA
13*	TELEFUNKEN
14*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
15*	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA, NORDMENDE, BRANDT
16*	TELEFUNKEN
17, 18	HITACHI
19	SIEMENS
20	SAMSUNG
21	ITT, NOKIA SELECO
22	NOKIA, SALORA
23	MIVAR
24	TOSHIBA
25	SANYO
26	SHARP
27	JVC
28	MITSUBISHI

Lorsqu'il existe plusieurs numéros pour le même fabricant
Exemple: le numéro 1, 2, 3 ou 4 (Panasonic):
Lorsque le téléviseur s'éteint au point 2 ci-dessus, le rallumer et régler le volume du téléviseur à l'aide de cette télécommande. Si le volume se règle, c'est que le numéro correspond au modèle de téléviseur. S'il n'est pas possible de régler le volume, essayer de régler les autres numéros (1 à 4) du fabricant jusqu'à ce qu'un numéro permette de régler le volume.

***Pour les numéros 9 à 16**
Comment changer le canal du téléviseur:

1 Appuyer sur ∧ **(TV)** de façon à faire apparaître **POS** sur l'affichage sur écran.

2 Appuyer sur **VOLUME** + ou –.
- Pour régler ensuite le volume du téléviseur à l'aide de la télécommande, appuyer sur ∧ **(TV)** pour faire disparaître **POS** de l'affichage sur écran, puis régler le volume. Sur certains modèles, **POS** disparaît automatiquement quelques secondes plus tard. Dans ce cas, cette opération n'est pas nécessaire.

Remarque:
FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, et SABA possèdent plusieurs numéros.
Bien que certains modèles puissent fonctionner avec n'importe lequel de ces numéros, d'autres ne pourront fonctionner qu'avec un seul. Vérifier chaque numéro l'un après l'autre, et régler le numéro optimal.

Memo

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

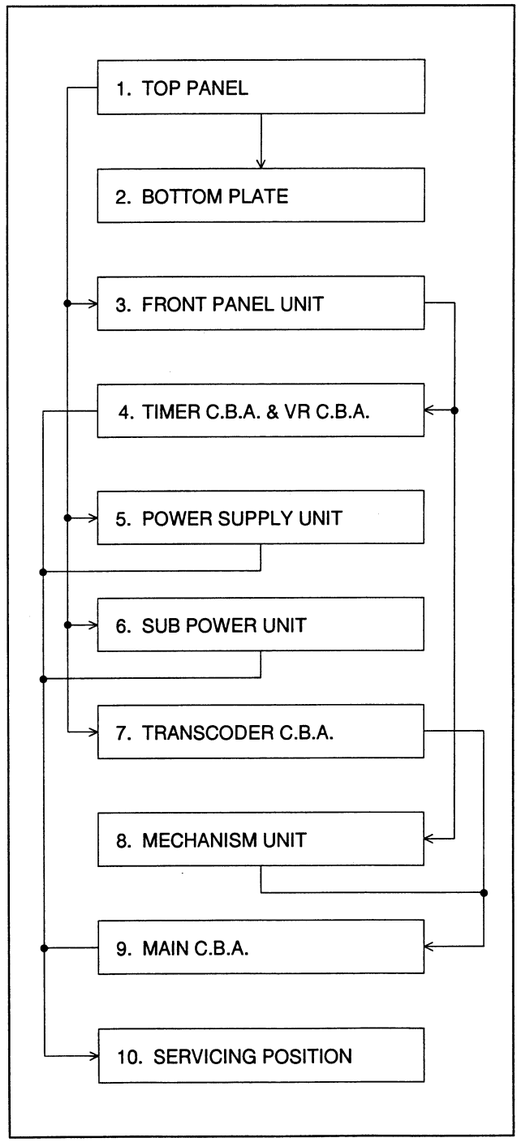


Fig. D1

2-1-2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL

Remove..... 4 Screws (A)

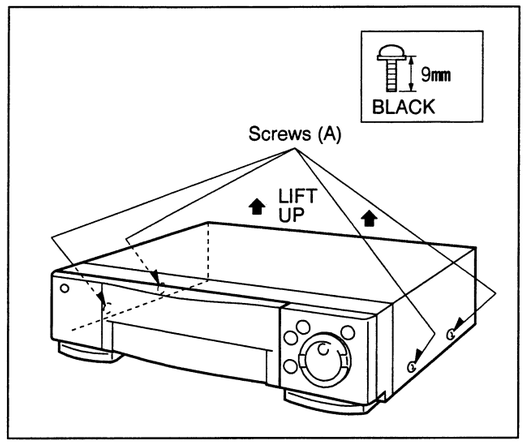


Fig. D2

2. REMOVAL OF THE BOTTOM PLATE

Unlock ..... 6 tabs (B)

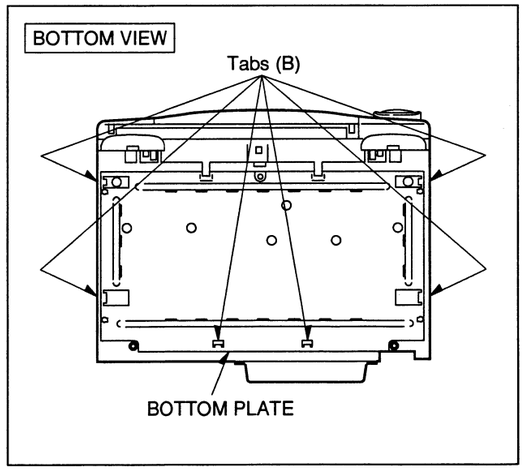


Fig. D3

3. REMOVAL OF THE FRONT PANEL UNIT

Pull out ..... JOG & SHUTTLE Knob
Unlock ..... 11 Tabs (C)

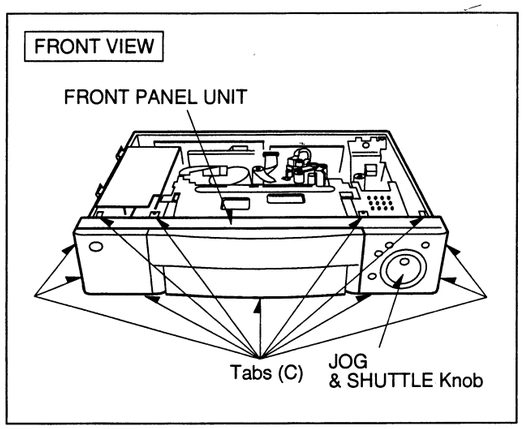


Fig. D4

4. REMOVAL OF THE TIMER C.B.A. & VR C.B.A.

REMOVAL OF THE TIMER C.B.A.
Disconnect.....Bridge connector (D)
Unlock..... 5 Tabs (E)

REMOVAL OF THE VR C.B.A.
Disconnect.....Bridge connector (D)
Unlock..... 2 Tabs (F)

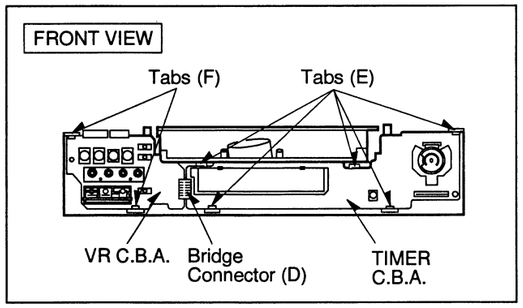


Fig. D5

5. REMOVAL OF THE POWER SUPPLY UNIT

Disconnect.....Bridge connector (G)
Unlock..... 5 Tabs (H)
Unlock..... 2 Tabs (I)

6. REMOVAL OF THE SUB POWER UNIT

Remove ..... 2 Screws (J)
Unlock..... 3 Tabs (K)

7. REMOVAL OF THE TRANSCODER C.B.A.

Remove ..... 1 Screw (L)
Unlock..... 2 Tabs (M)

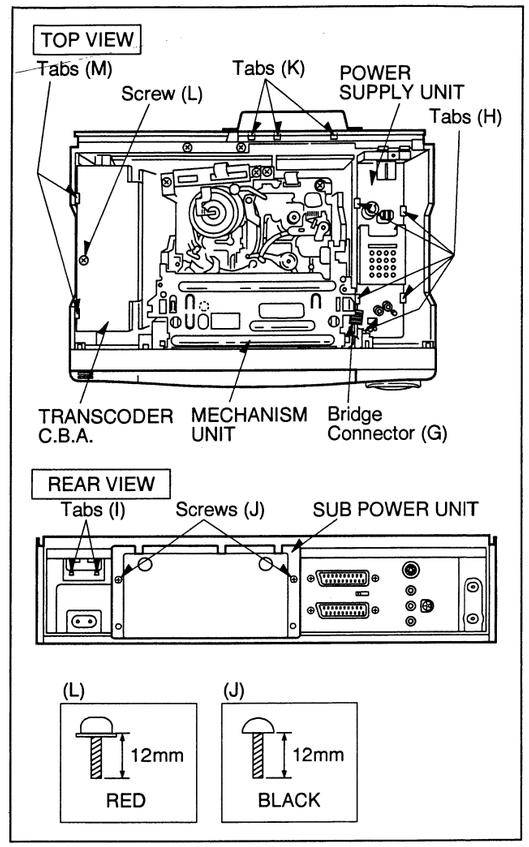


Fig. D6

CAUTIONS:
Please pay an attention to disconnect the connector (P1001-P1102) which connected between Main C.B.A. and Power supply unit as shown below.

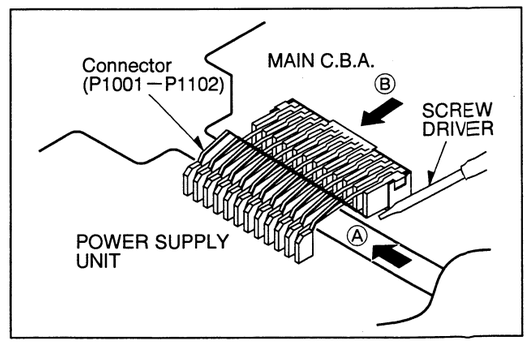
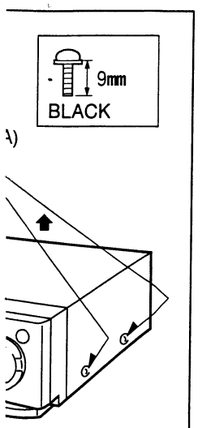


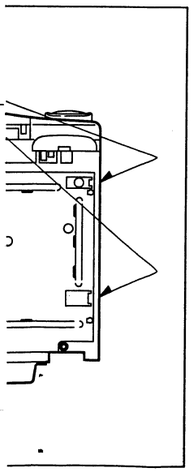
Fig. D7

As above drawing, disconnect the connector by SCREW DRIVER from the direction Ⓐ.
Do not disconnect from direction Ⓑ because it is possibility to damage the parts located by the connector.

ETHOD



TE



3. REMOVAL OF THE FRONT PANEL UNIT

Pull out ..... JOG & SHUTTLE Knob
Unlock ..... 11 Tabs (C)

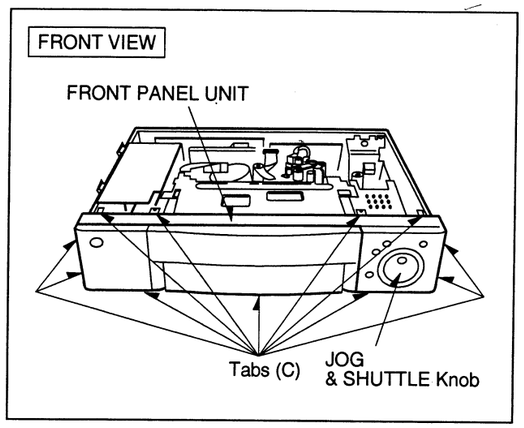


Fig. D4

4. REMOVAL OF THE TIMER C.B.A. & VR C.B.A.

REMOVAL OF THE TIMER C.B.A.
Disconnect.....Bridge connector (D)
Unlock..... 5 Tabs (E)

REMOVAL OF THE VR C.B.A.
Disconnect.....Bridge connector (D)
Unlock..... 2 Tabs (F)

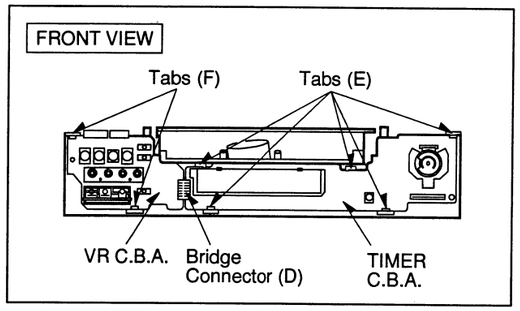


Fig. D5

5. REMOVAL OF THE POWER SUPPLY UNIT

Disconnect.....Bridge connector (G)
Unlock..... 5 Tabs (H)
Unlock..... 2 Tabs (I)

6. REMOVAL OF THE SUB POWER UNIT

Remove ..... 2 Screws (J)
Unlock..... 3 Tabs (K)

7. REMOVAL OF THE TRANSCODER C.B.A.

Remove ..... 1 Screw (L)
Unlock..... 2 Tabs (M)

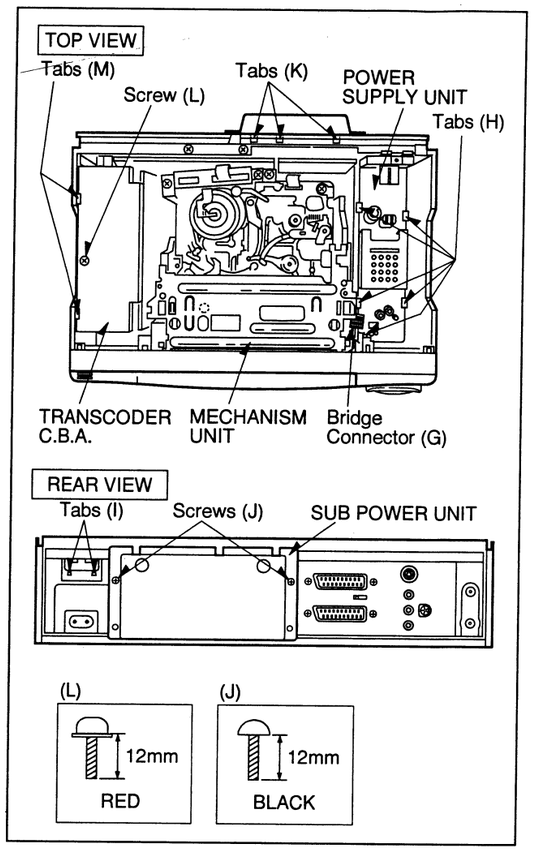


Fig. D6

CAUTIONS:
Please pay an attention to disconnect the connector (P1001-P1102) which connected between Main C.B.A. and Power supply unit as shown below.

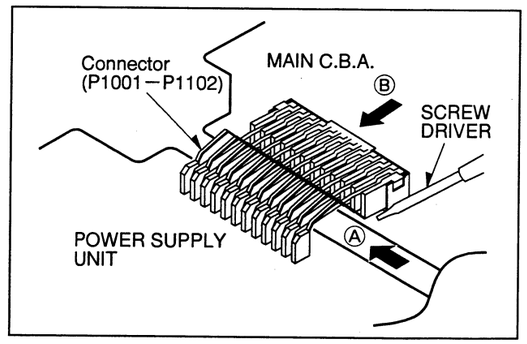


Fig. D7

As above drawing, disconnect the connector by SCREW DRIVER from the direction Ⓐ.
Do not disconnect from direction Ⓑ because it is possibility to damage the parts located by the connector.

8. REMOVAL OF THE MECHANISM UNIT

Remove ..... 3 Screws (N)
Remove ..... Screw (O)

9. REMOVAL OF THE MAIN C.B.A.

Disconnect ... Bridge connector (G) [Fig. D6]
Remove ..... 2 Screws (P)
Unlock..... 5 Tabs (Q)

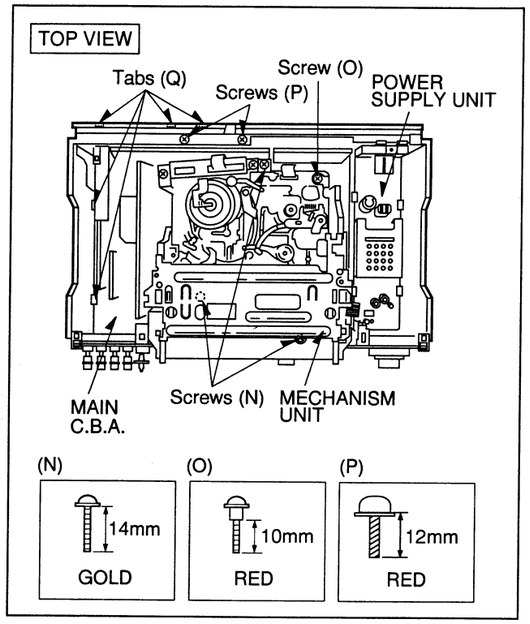


Fig. D8

10. SERVICING POSITION

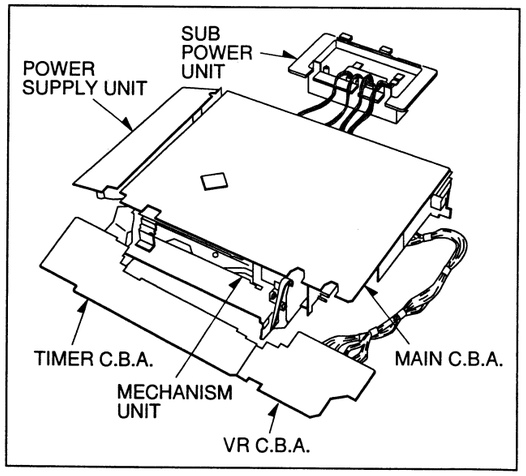


Fig. D9

2-2. MECHANICAL ADJUSTMENT PROCEDURES

The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

CAUTIONS:

To make a Adjustment Mode for Tape Interchangeability, there are two ways to turn off the Auto Tracking.

(1) Connect a jumper wire between TL SERV and GND as shown Location of Test Points & Controls (Page: 2-4).
(2) Turn the Shuttle Ring to FF then push the EJECT button 3 times to set the Service Mode 2.

2-3. DISASSEMBLY PROCEDURES OF MECHANISM

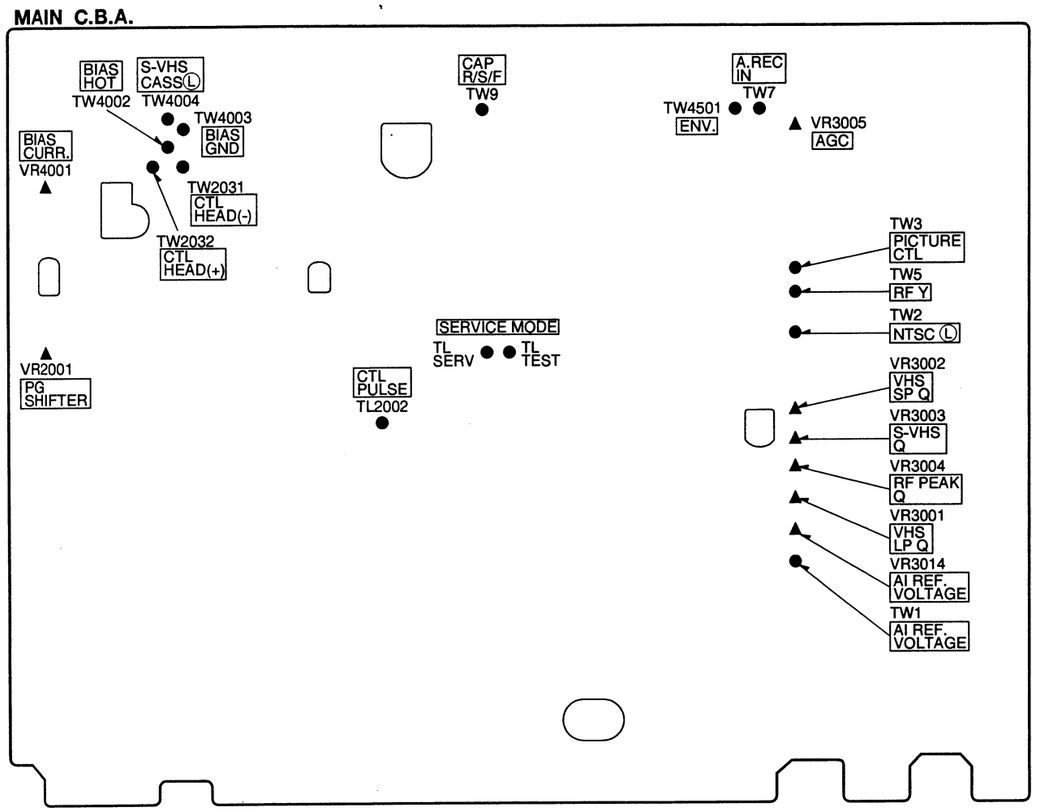
The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

2-4. ASSEMBLY PROCEDURES OF MECHANISM

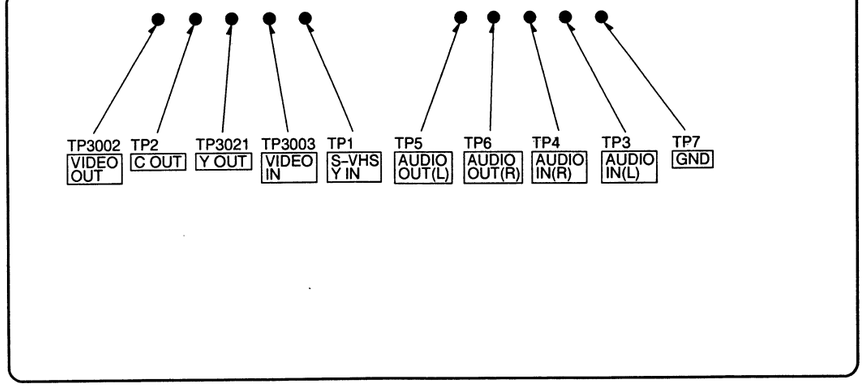
The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

LOCATION OF TEST POINTS & CONTROLS

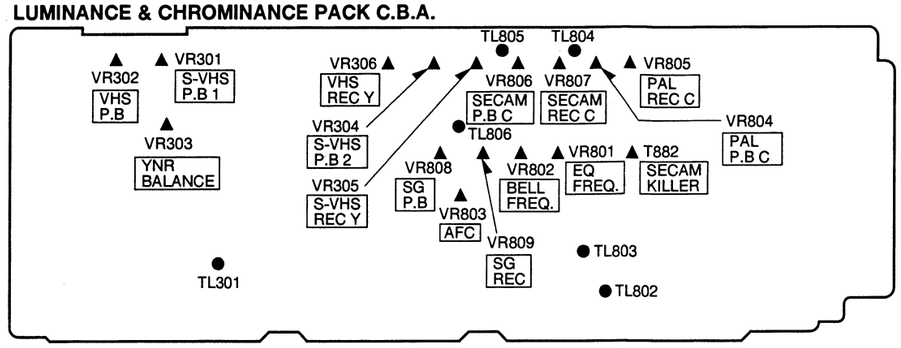
MAIN C.B.A.



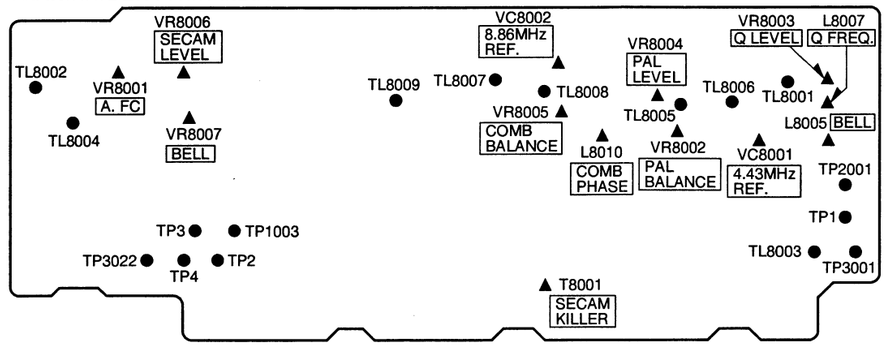
INPUT/OUTPUT PACK C.B.A.



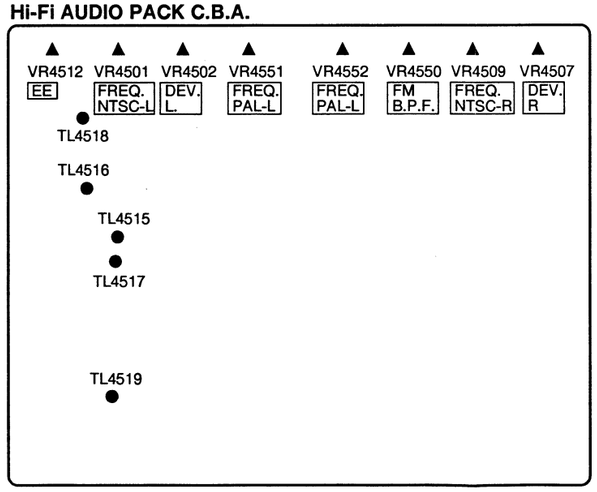
LUMINANCE & CHROMINANCE PACK C.B.A.



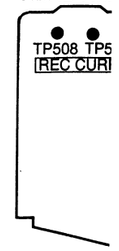
TRANSCODER PACK C.B.A.



Hi-Fi AUDIO PACK C.B.A.



HEAD AM



T

CIRCUI

LUMINANCE PACK C.B.A.

TV DEMODU PACK C.B.A.

TRANSCODE C.B.A.

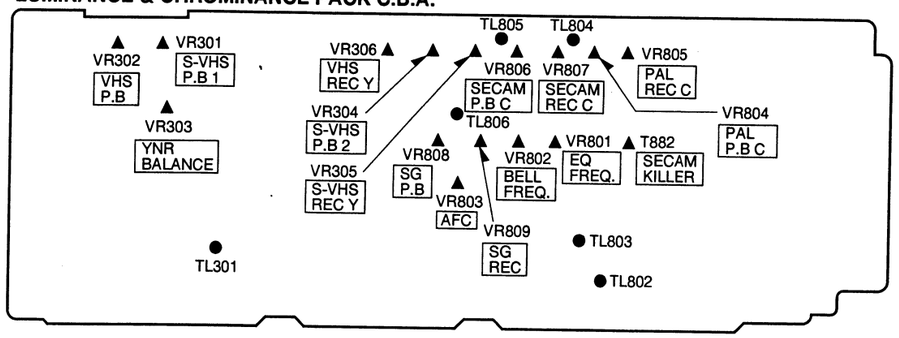
VRC.B.A. —

FRONT JACK

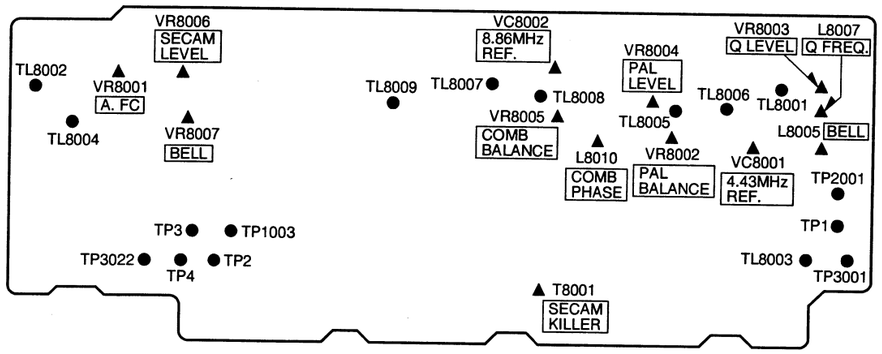
NICAM DEC(PACK C.B.A

TIMER C.B.A

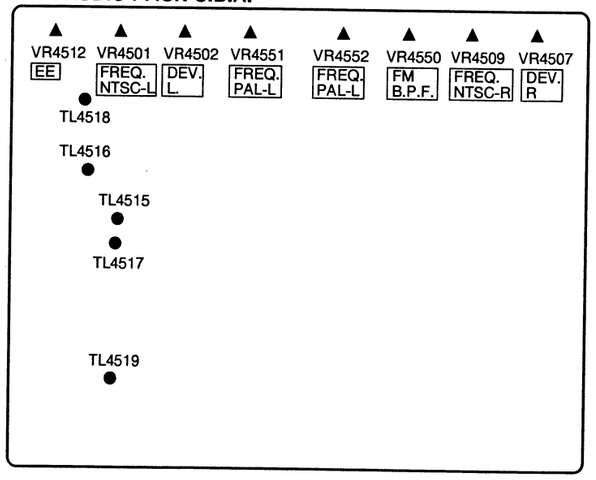
LUMINANCE & CHROMINANCE PACK C.B.A.



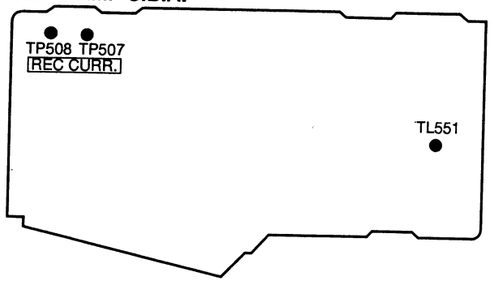
TRANSCODER PACK C.B.A.



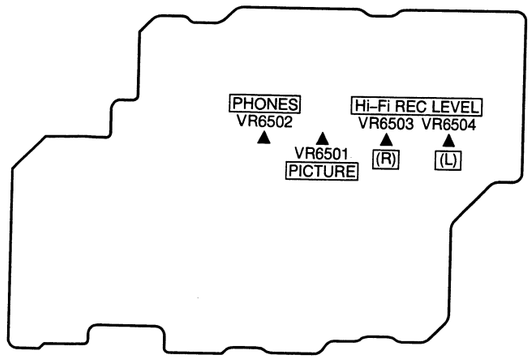
Hi-Fi AUDIO PACK C.B.A.



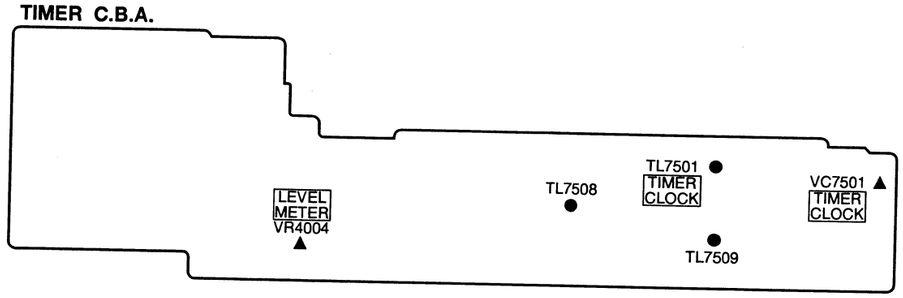
HEAD AMP C.B.A.



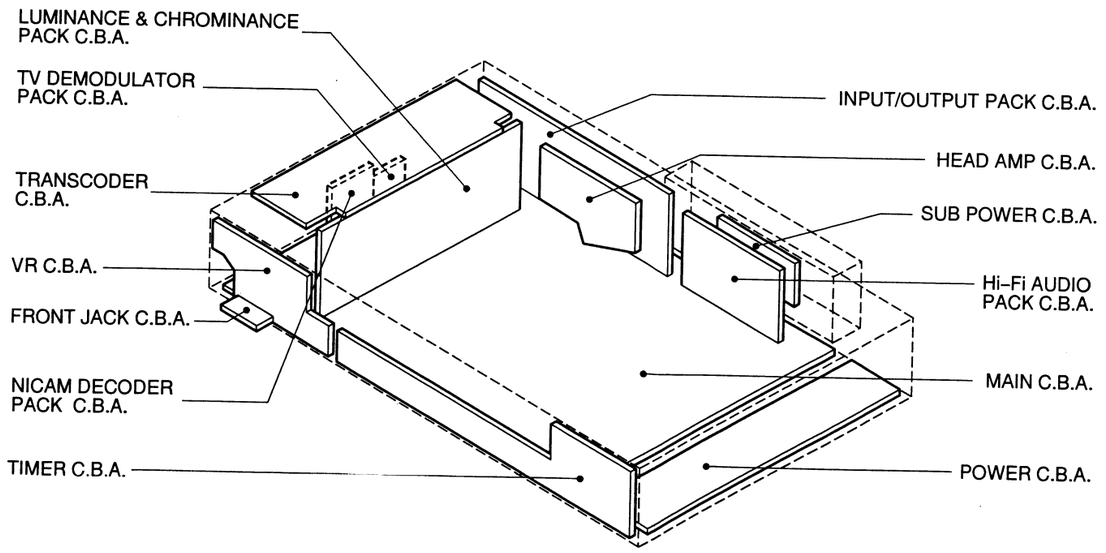
VR C.B.A.



TIMER C.B.A.



CIRCUIT BOARD LAYOUT



2-5. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete adjustment procedures required for electric circuits of VHS Video Cassette Recorders.

2-5-1. TEST EQUIPMENT

To perform electrical adjustments following equipment is required.

1. Dual-Trace Oscilloscope. (More than 35MHz)
   Voltage Range: 0.005-5V/div
   Frequency Range: DC-35MHz
   Probes: 10:1 OR 1:1
2. Frequency Counter.
   Frequency Range: 0-10MHz
   Probes: 1:1
3. Universal Counter.
4. Digital Volt Meter. (D.V.M.)
5. Video Sweep Generator.
6. Sine Wave Generator.
7. Video Pattern Generator.
8. VHS Alignment Tape. (VFJ8125H3F)
9. VHS Blank Tape.
10. Monitor.
11. Plastic Tip Driver.
12. DC Power Supply.

2-5-2. PREPARATION

During adjustment, set each selector as follows: when no indication in the procedure.

AI SW.....OFF
PICTURE VR.....CENTRE FIX
HIFI REC LEVEL VR.....CENTRE FIX
16:9 SW.....AUTO
S-VHS SW.....ON
AV OUT SW.....NORMAL
CVC SW.....OFF
PHONES LEVEL VR.....MIN

2-5-3. HOW TO READ ADJUSTMENT PROCEDURES

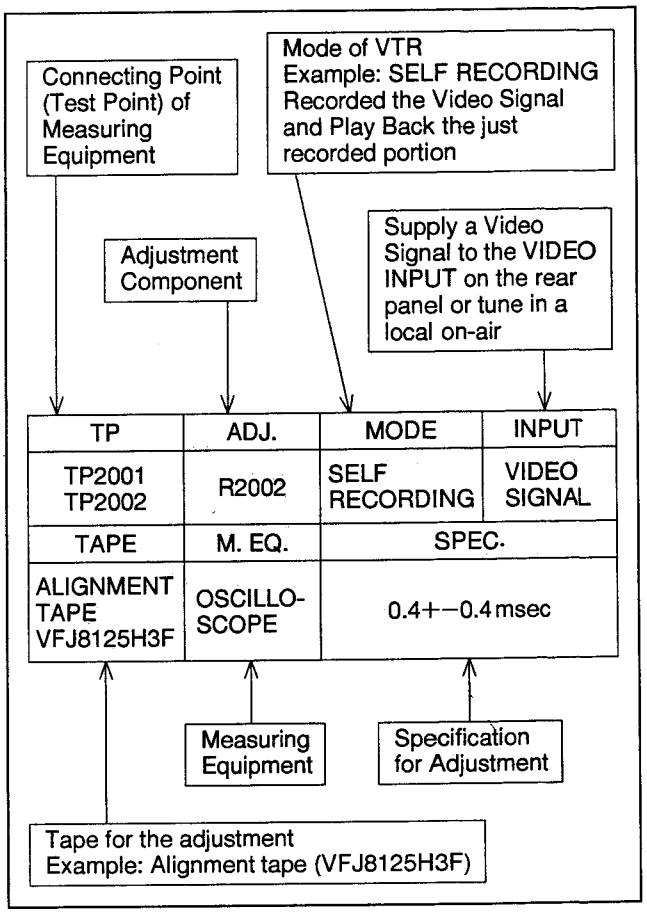


Fig. E1

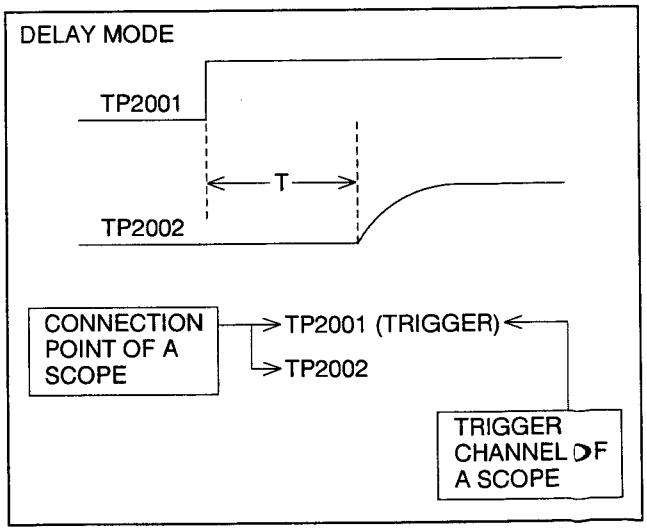


Fig. E2

SERVO SECTION

2-5-4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAYBACK	
TAPE	M. EQ.	SPEC.	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	7.0+−0.5 (H)	

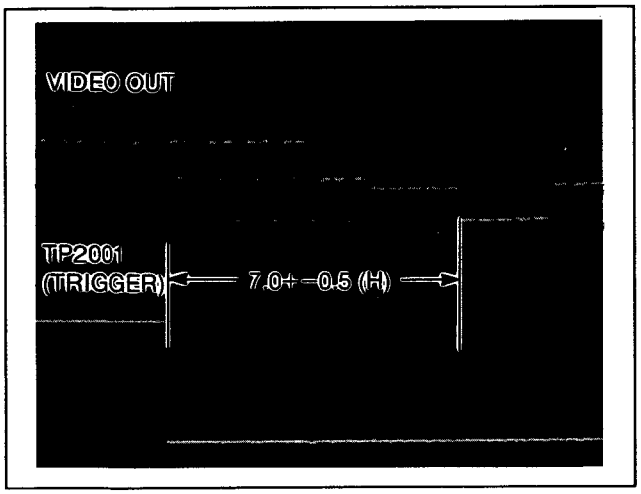


Fig. E3

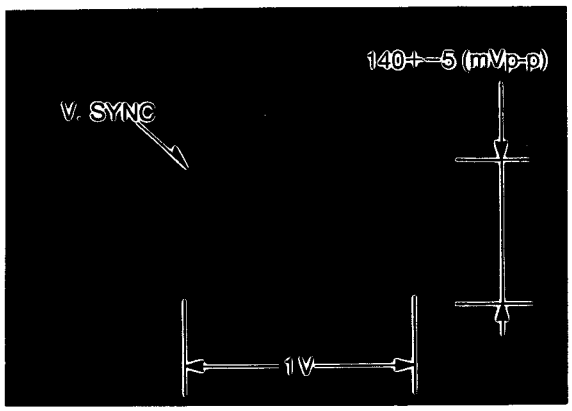
LUMINANCE & CHROMINANCE SECTION

2-5-5. RECORDING CURRENT ADJUSTMENT

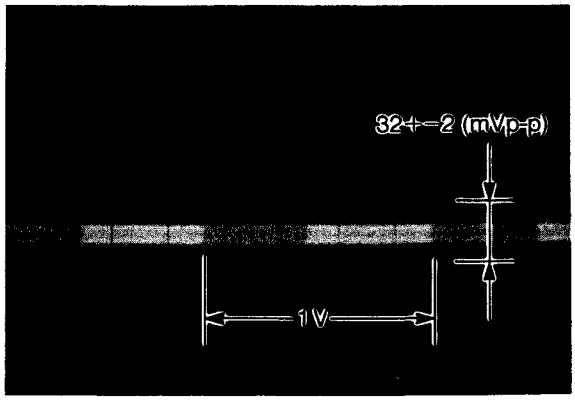
TP	ADJ.	MODE	INPUT
TP507 (HOT) TP508 (GND)	VR305 (S VHS-Y) VR306 (VHS-Y) VR805 (PAL-C) VR807 (SECAM-C)	SP RECORDING	PAL/SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	S VHS-Y : 140+−5 (mVp-p) VHS-Y : 140+−5 (mVp-p) PAL-C : 32+−2 (mVp-p) SECAM-C : 32+−2 (mVp-p)	

Note: 1. Set the AI SW to OFF position.
2. Connect a jumper wire between the pin 96 of IC6001 and GND (TEST MODE).
3. LUMINANCE RECORDING CURRENT ADJUSTMENT
   1) Set the S VHS SW to OFF position. (VHS MODE)
   2) Adjust VR306 so that the amplitude of sync tip portion for VHS REC Y output level is 140+−5 (mVp-p).
   3) Set the S VHS SW to ON position. (S VHS MODE)
   4) Adjust VR305 so that the amplitude of sync tip portion for S VHS REC Y output level is 140+−5 (mVp-p).
4. CHROMINANCE RECORDING CURRENT ADJUSTMENT
   1) Supply +5V DC to TP3 (TRANSCODER C.B.A.) to eliminate Luminance component.
   2) Adjust VR805 so that the amplitude of Cyan for PAL REC CHROMINANCE is 32+−2 (mVp-p) in PAL COLOUR BAR.
   3) Adjust VR807 so that the amplitude of Cyan for SECAM REC CHROMINANCE is 32+−2 (mVp-p) in SECAM COLOUR BAR.

Y (VHS, S-VHS)



C (PAL)



C (SECAM)

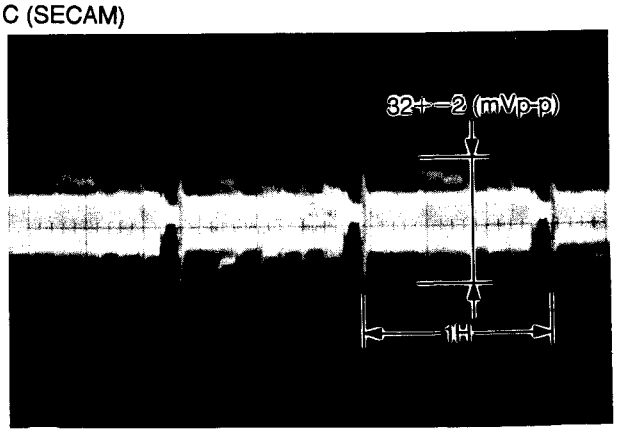


Fig. E4

2-5-6. VHS PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR302	SP (SELF RECORDED) PLAYBACK	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	2.0+−0.2 (Vp-p)	

Note: 1. Set the S-VHS SW to OFF position.

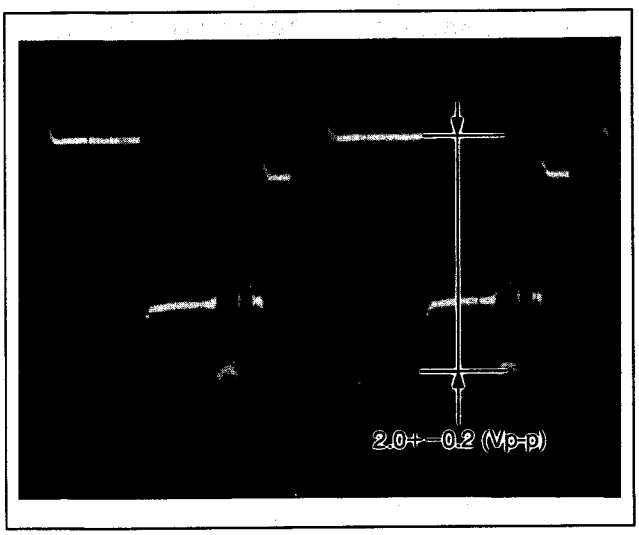


Fig. E5

2-5-7. S-VHS PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3022 (Y1) TP3021 (Y2)	VR301 (Y1) VR304 (Y2)	SP (SELF RECORDED) PLAYBACK	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	OSCILLO-SCOPE	Y1: 0.4+−0.01(Vp-p) Y2: 2.0+−0.01(Vp-p)	

Note: 1. Set the S-VHS SW to ON position.
2. Before this adjustment, VHS PLAYBACK LEVEL ADJUSTMENT must be done.

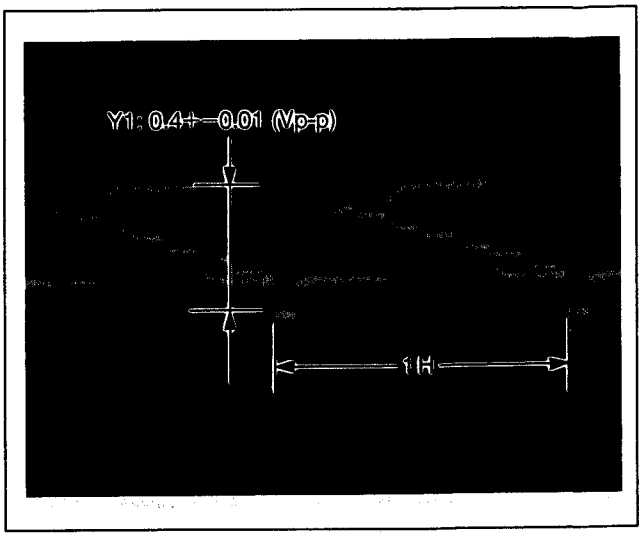


Fig. E6

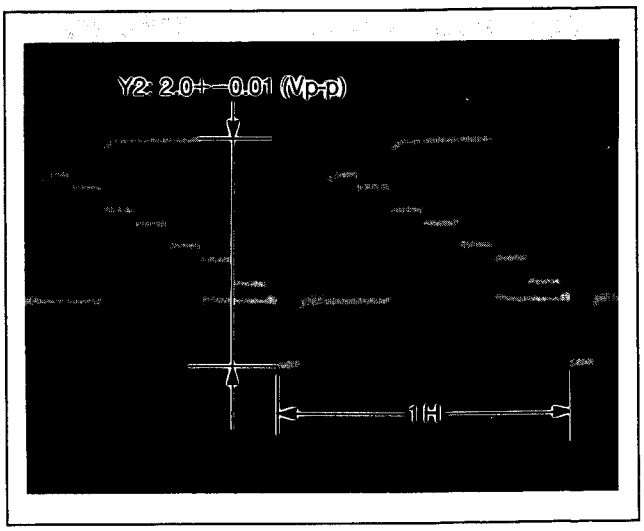


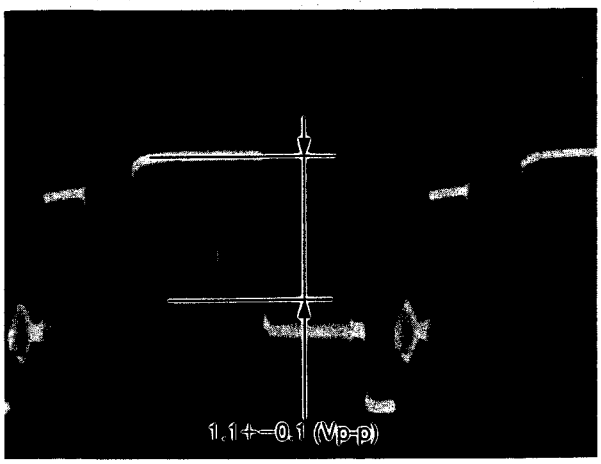
Fig. E7

2-5-8. CHROMINANCE PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002 (I/O PACK)	VR804 (PAL) VR806 (SECAM)	SP (SELF RECORDED) PLAYBACK	PAL/SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	CYAN : 1.1+−0.1 (Vp-p) MAGENTA: 420+−25 (mVp-p)	

Note: 1. Set the S VHS SW of OFF position. (VHS MODE)
2. AV1 VIDEO OUT must be 75 ohm terminated.
3. Record PAL COLOUR BAR signal and playback the recorded portion.
4. Adjust VR804 so that the amplitude of Cyan is 1.1+−0.1 (Vp-p).
5. Record SECAM COLOUR BAR signal and playback the recorded portion.
6. Adjust VR806 so that the amplitude of Magenta is 420+−25 (mVp-p).

PAL (CYAN)



SECAM (MAGENTA)

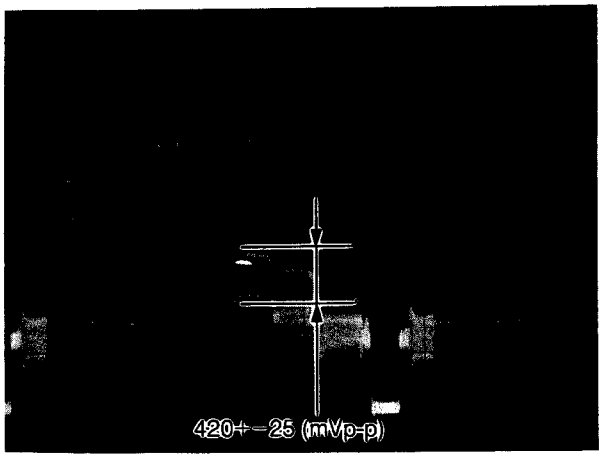
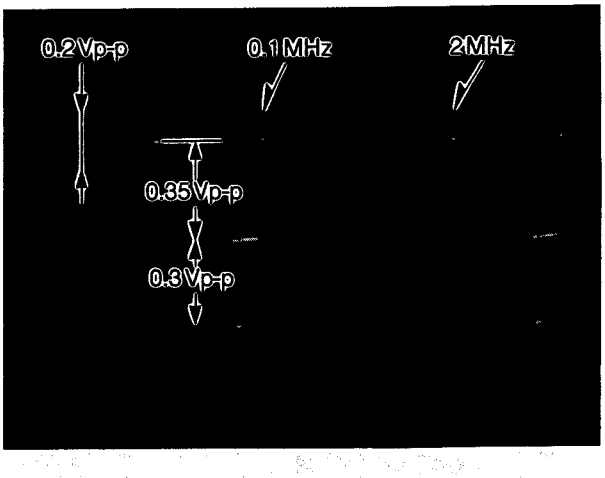


Fig. E8



CONDITION: BURST SIGNAL OFF
75 ohm TERMINATED

Fig. E9

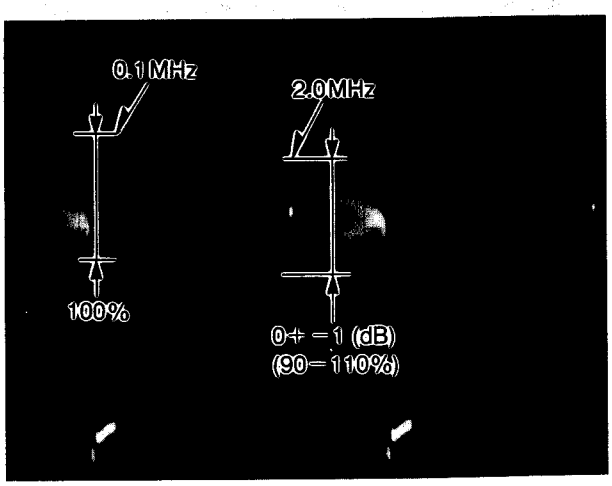


Fig. E10

2-5-9. VHS FREQUENCY RESPONSE ADJUSTMENT

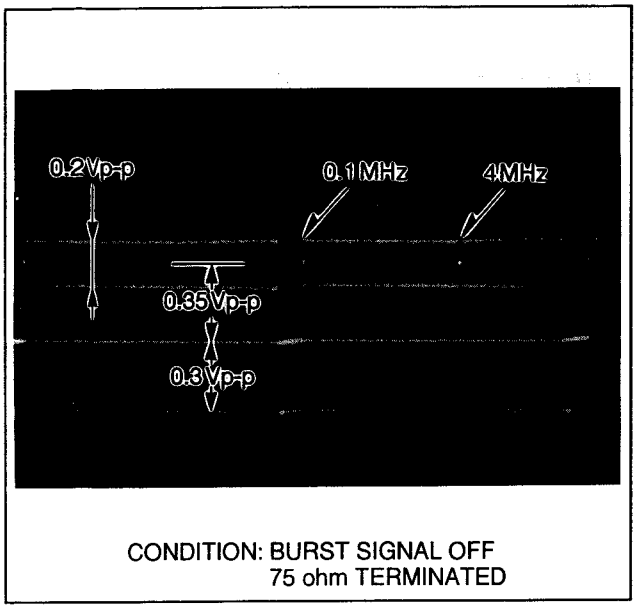
TP	ADJ.	MODE	INPUT
TP3002	VR3002 (SP) VR3001 (LP)	SP/LP (SELF RECORDED) PLAYBACK	VIDEO SWEEP SIGNAL (Shown in Fig. E9)
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE/ VIDEO SWEEP GENERATOR	SP: 0+−1(dB) (90−110%) LP: 0+−1(dB) (90−110%)	

Note: 1. Set the Video Sweep Signal as shown in Fig. E9.
2. Set the AI and S-VHS SW to OFF position.
3. Set the VIDEO MODE SW to B/W position.

2-5-10. S-VHS FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3021	VR3003	SP (SELF RECORDED) PLAYBACK	VIDEO SWEEP SIGNAL TP1 (I/O PACK)
TAPE	M. EQ.	SPEC.	
S-VHS BLANK TAPE	OSCILLO-SCOPE/ VIDEO SWEEP GENERATOR	SP: −4.5+−1(dB) (55−70%)	

Note: 1. Before this adjustment, RF PEAK ADJUSTMENT must be done.
2. Set the Video Sweep Signal as shown in Fig. E11.
3. Set the AI SW to OFF position.



CONDITION: BURST SIGNAL OFF
75 ohm TERMINATED

Fig. E11

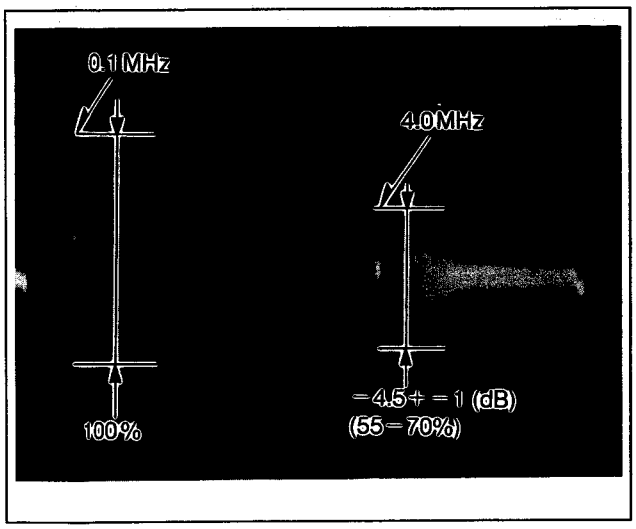


Fig. E12

2-5-11. VIDEO EE LEVEL (AGC) ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3005	STOP	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	2.0+−0.1 (Vp-p)	

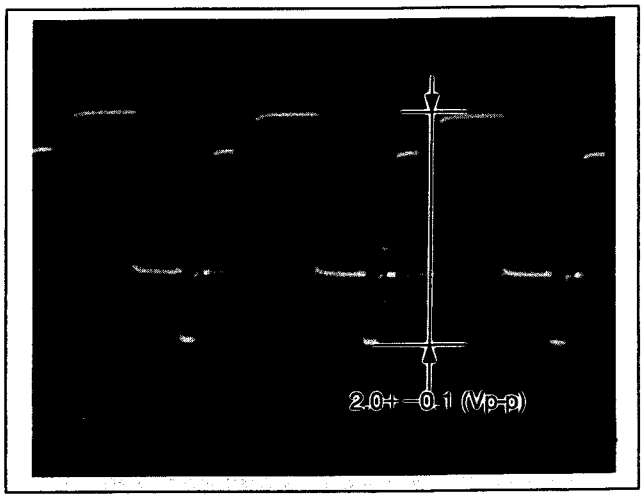


Fig. E13

2-5-12. ARTIFICIAL NTSC FREE RUN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL803	VR803	STOP	
TAPE	M. EQ.	SPEC.	
	FREQUENCY COUNTER/ SINEWAVE GENERATOR	15735+−100 (Hz)	

Note: 1. Supply +5V DC to TL802.
2. Turn VR803 to maximum frequency, then adjust VR803 until the specification.

2-5-13. YNR ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC301-34 (TL301)	VR303	STOP	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	WAVEFORM IS MINIMUM	

Note: 1. Connect a capacitor (1500pF) between IC301-34 and GND.

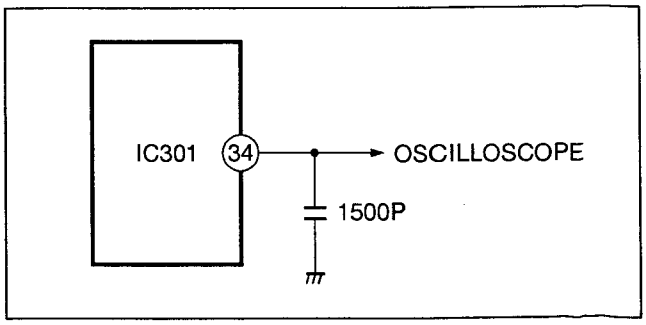


Fig. E14

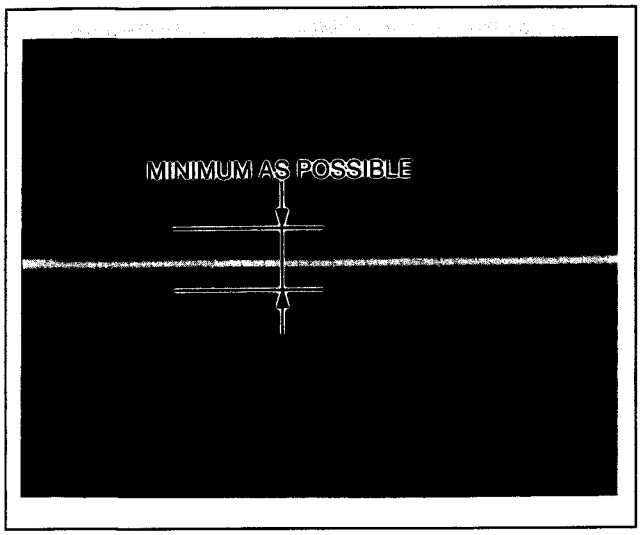


Fig. E15

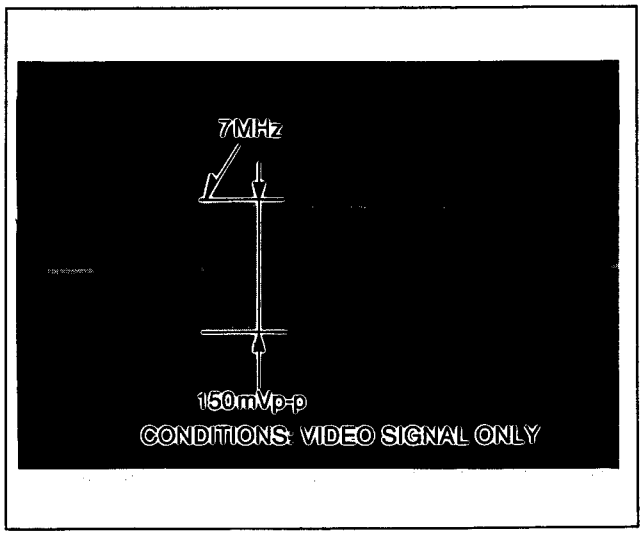
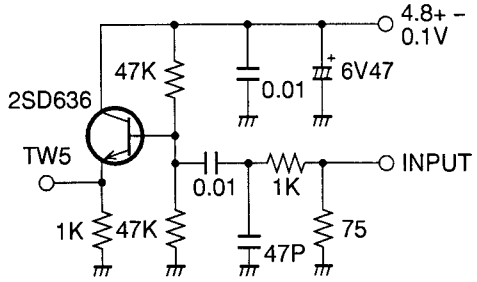


Fig. E17

2-5-14. RF PEAK FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4	VR3004	STOP	VIDEO SWEEP SIGNAL TW5 (RF Y IN)
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE/ VIDEO SWEEP GENERATOR	SIGNAL LEVEL AT 7MHz PORTION IS MAXIMUM	

Note: 1. Connect the Service Circuit as shown in Fig. E16.
2. Set VR3003 to centre position.
3. Set the Video Sweep Signal Generator (video signal only) as shown in Fig. E17.
4. Supply set up video sweep signal to TW5 via Service Circuit.
5. Adjust VR3004 until the signal level at 7MHz portion is miximum as shown in Fig. E18.



(Example)
75 ohm: ERDS2TJ750 0.01μ: ECCF1H103ZF
1Kohm: ERDS2TJ102 47P: ECCF1H470JC
47Kohm: ERD2TJ473 6V47μ: ECEA0JK470

Fig. E16

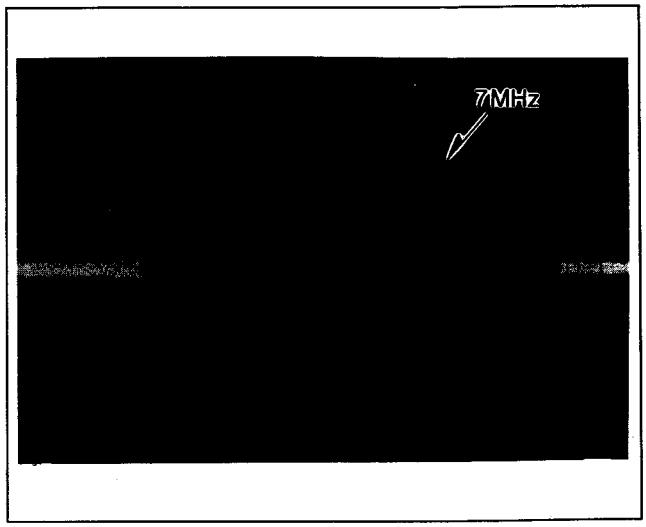


Fig. E18

2-5-15. AI REF. VOLTAGE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TW1	VR3014	SP (SELF RECORDED) PLAYBACK	PAL COLOUR BAR (TP3003)
TAPE	M. EQ.	SPEC.	
BLANK TAPE	D.V.M	2.5+−0.23 (V)	

Note: 1. Set the S-VHS SW to OFF position.
2. Set the CVC SW to ON position.

2-5-16. SECAM KILLER ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC8013-11 IC805-11	T8001 T882	STOP AND SP PLAYBACK	SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE	T882/T8001 WAVEFORM IS MAXIMIZED	

Note: 1. T882 ADJUSTMENT
1) Set the SYSTEM SELECT SW to AUTO position.
2) Connect the oscilloscope to pin 11 of IC805 and adjust T882 until the amplitude of the fh/2 waveform is maximized in STOP mode.
2. T8001 ADJUSTMENT
1) Set the SYSTEM SELECT SW to MESECAM position.
2) Record SECAM COLOUR BAR signal and playback the recorded portion.
3) Connect the oscilloscope to pin 11 of IC8013 and adjust T8001 until the amplitude of the fh/2 waveform is maximized in playback mode.

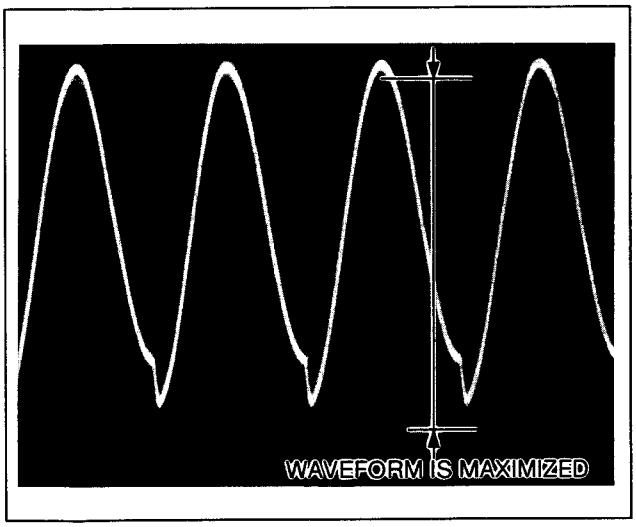


Fig. E19

2-5-17. SECAM BELL FILTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL804	VR802	SP RECORDING	SINEWAVE 4.286MHz
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE SINEWAVE GENERATOR	WAVEFORM IS MAXIMIZED at 4.286MHz+−0.02MHz	

Note: 1. Set the S VHS SW to OFF position. (VHS MODE)
2. Set the SYSTEM SELECT SW to SECAM position.
3. Before recording the sinewave, set the sinewave generator until the signal level at pin 8 of PS802 is 170mVp-p.

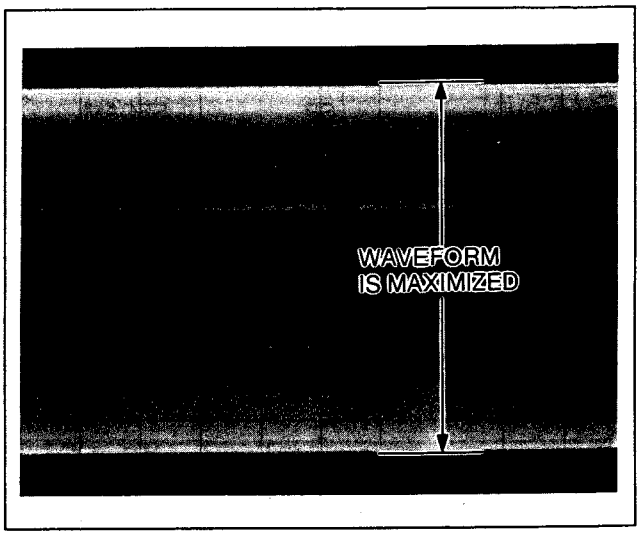


Fig. E20

2-5-18. REC PB EQUALIZER ADJUSTMENT

TP	ADJ.	MODE	INPUT
PS303-10	VR801	SP PLAYBACK	SINEWAVE 1.0715MHz (PS802-1)
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO- SCOPE SINEWAVE GENERATOR	WAVEFORM IS MAXIMIZED at 1.0715MHz+−0.005MHz	

Note: 1. Set the S VHS SW to OFF position. (VHS MODE)
2. Set the SYSTEM SELECT SW to SECAM position.
3. Disconnect (open) the pin 8 of PS303.
4. Before the adjustment, connect the sinewave generator to pin 1 of PS802 and set the sinewave generator until the signal level at TL805 is 25mVp-p.
5. After adjustment, connect the pin 8 of PS303.

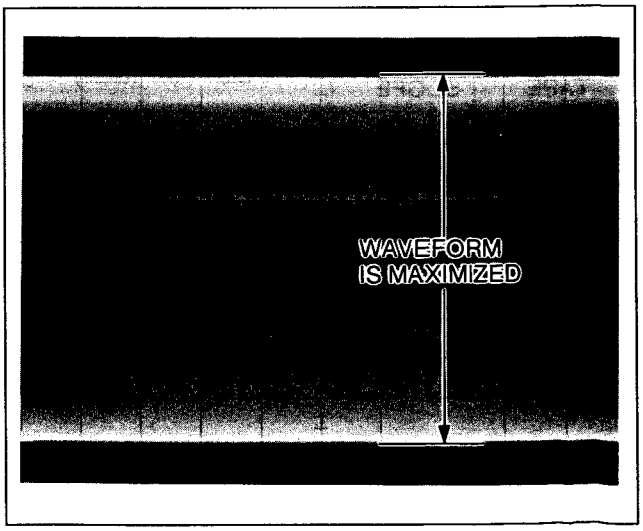


Fig. E21

2-5-19. REC SYNC GATE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT PS303-10	VR809	SP RECORDING	SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	5.0+−0.1 (usec)	

Note: 1. Set the S VHS SW to OFF position. (VHS MODE)
2. Set the SYSTEM SELECT SW to SECAM position.
3. Set the OUTPUT SYSTEM SELECT SW to SECAM position.

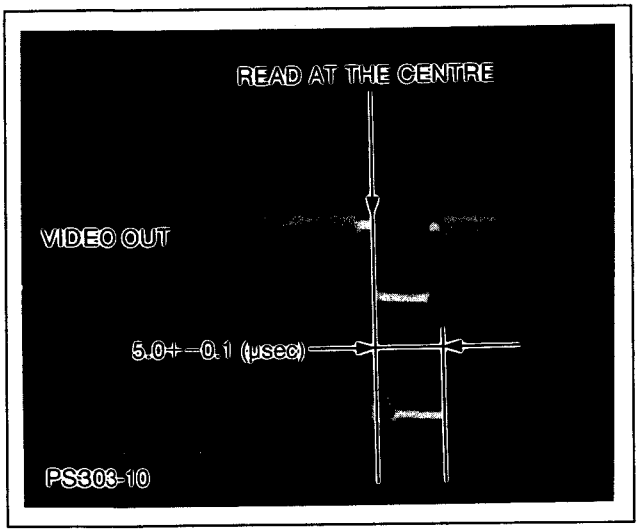


Fig. E22

2-5-20. PB SYNC GATE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT TL806	VR808	SP (SELF RECORDED) PLAYBACK	SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	5.0+−0.1 (usec)	

Note: 1. Set the S VHS SW to OFF position. (VHS MODE)
2. Set the SYSTEM SELECT SW to SECAM position.
3. Set the OUTPUT SYSTEM SELECT SW to SECAM position.

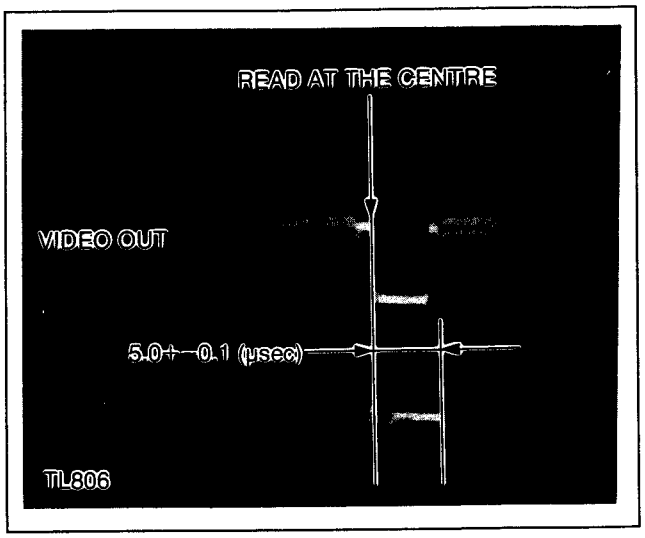


Fig. E23

2-5-21. AFC FREE RUN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8004	VR8001	STOP	
TAPE	M. EQ.	SPEC.	
	FREQUENCY COUNTER	15625+−50 (Hz)	

Note: 1. Connect TL8002 to GND.

2-5-22. INPUT BELL FILTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8001	L8005	STOP	SINEWAVE 4.286MHz
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE SINEWAVE GENERATOR	WAVEFORM IS MAXIMIZED AT 4.286+−0.02 (MHz)	

Note: 1. Before adjusting, set the sinewave generator until the signal level at pin 3 of PS8001 is 150mVp-p.

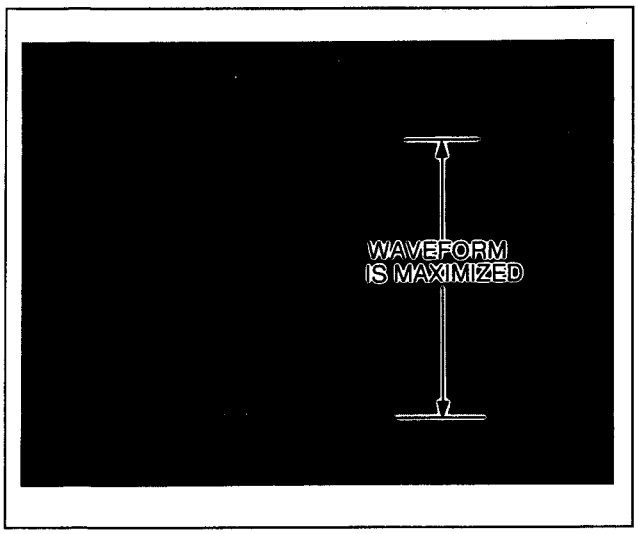


Fig. E24

2-5-23. 4.43MHz REFERENCE OSCILLATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8006	VC8001	STOP	SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
	FREQUENCY COUNTER	4433619+−50 (Hz)	

Note: 1. Set the OUTPUT SYSTEM SELECT SW to PAL position.
2. Connect the service circuit to TL8006 as shown in Fig. E25.

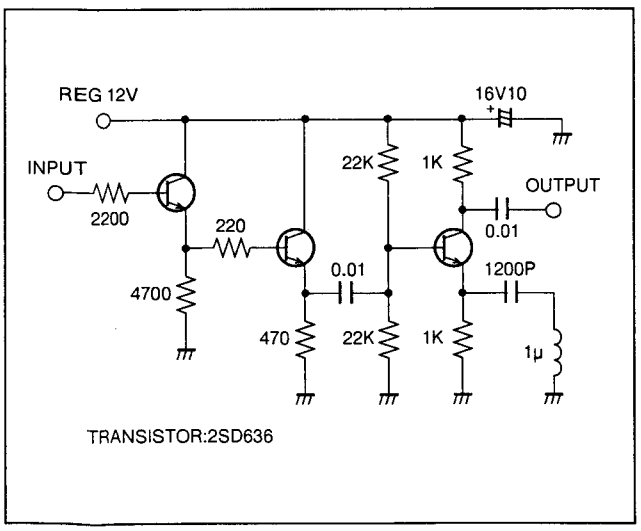


Fig. E25

2-5-24. SECAM DEMODULATOR ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8005	VR8003 L8007	STOP	SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	LESS THAN 20 (mVp-p)	

Note: 1. Set the OUTPUT SYSTEM SELECT SW to PAL position.

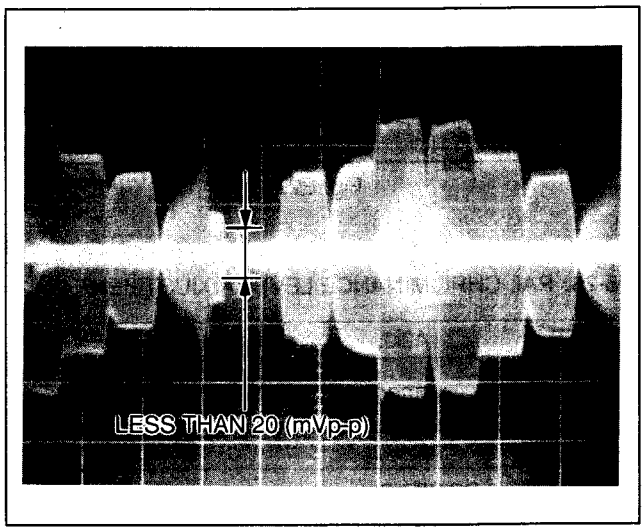


Fig. E26

2-5-25. PAL FLICKER LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8005	VR8002	STOP	SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	LESS THAN 20 (mVp-p)	

Note: 1. Set the OUTPUT SYSTEM SELECT SW to PAL position.
2. Adjust VR8002 so that the flicker level of red portion is less than 20 (mVp-p).

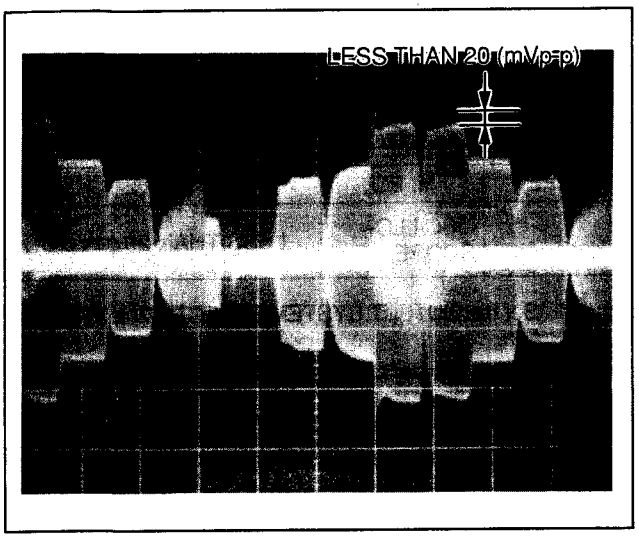


Fig. E27

2-5-26. PAL CHROMINANCE LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8003	VR8004	STOP	SECAM COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	330+−15 (mVp-p)	

Note: 1. Set the OUTPUT SYSTEM SELECT SW to PAL position.
2. Adjust VR8004 so that the cyan level is 330+−15 (mVp-p).

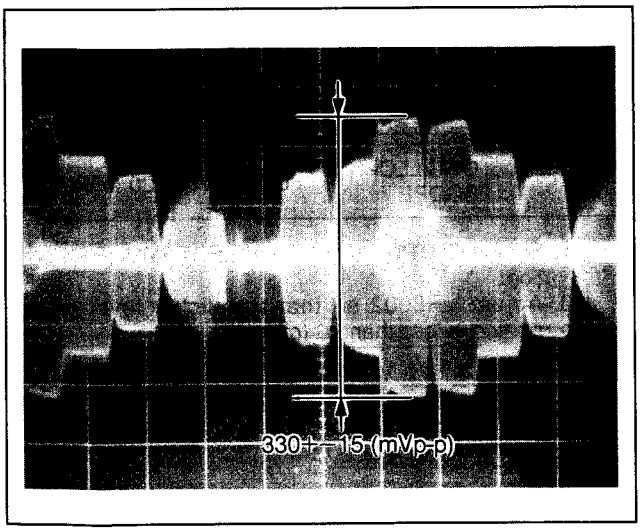


Fig. E28

2-5-27. APC FREE RUN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8008	VC8002	STOP	
TAPE	M. EQ.	SPEC.	
	FREQUENCY COUNTER	8867238+−100 (Hz)	

Note: 1. Connect TL8007 to GND.
2. Connect the service circuit to TL8008 as shown in Fig. E29.

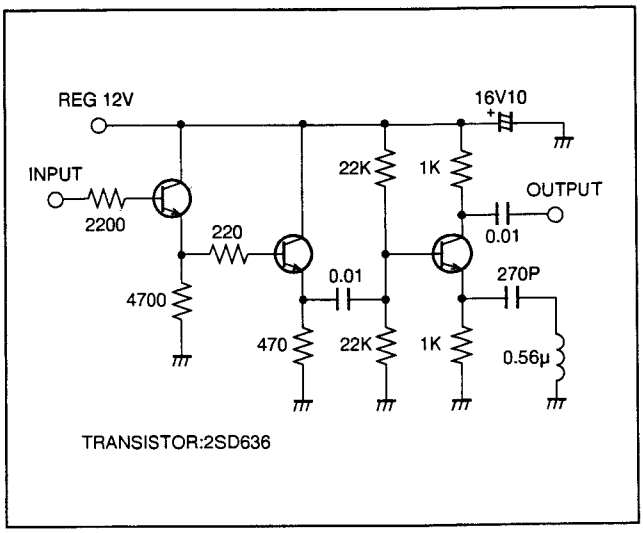


Fig. E29

2-5-28. FLICKER LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8009	L8010 VR8005	STOP	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	L8010 : FLICKER LEVEL IS MINIMIZED VR8005 : 1.05+−0.05 (Vp-p)	

Note: 1. Set the OUTPUT SYSTEM SELECT SW to SECAM position.
2. Adjust L8010 so that the flicker level is minimized.
3. Adjust VR8005 so that the level is 1.05+−0.05 (Vp-p).

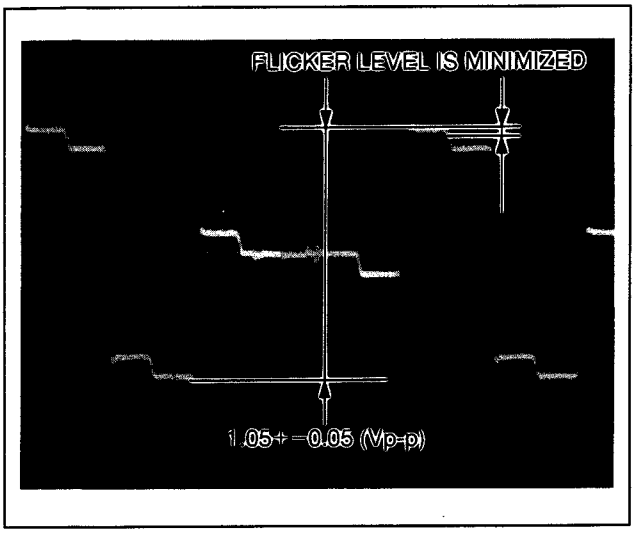


Fig. E30

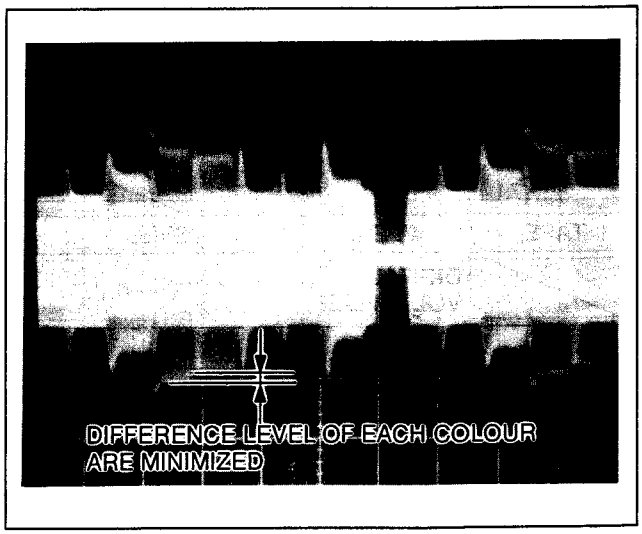


Fig. E32

2-5-29. OUTPUT BELL FILTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8003	VR8007	STOP	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	DIFFERENCE LEVEL OF EACH COLOUR ARE MINIMIZED	

Note: 1. Set the OUTPUT SYSTEM SELECT SW to SECAM position.
2. Before connecting the service circuit, the service circuit must be adjusted.
Set the sinewave generator to the input of the service circuit until the signal level at the output of the service circuit, the waveform is maximized by adjusting TRANSFORMER (EIK7QG001B).
3. Connect the service circuit to TL8003 as shown in Fig. E31 in order to observe the more clear waveform.
(This adjustment can be performed without connecting the service circuit.)

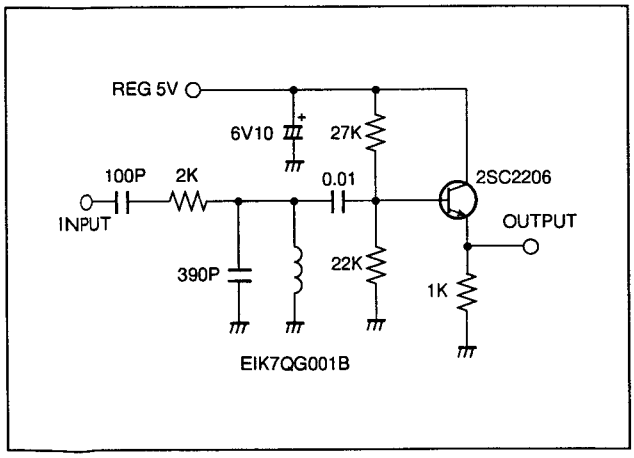


Fig. E31

2-5-30. SECAM CHROMINANCE LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL8003	VR8006	STOP	PAL COLOUR BAR
TAPE	M. EQ.	SPEC.	
	OSCILLO-SCOPE	115+−5 (mVp-p)	

Note: 1. Set the OUTPUT SYSTEM SELECT SW to SECAM position.
2. Adjust VR8006 so that the magenta level is 115+−5 (mVp-p).

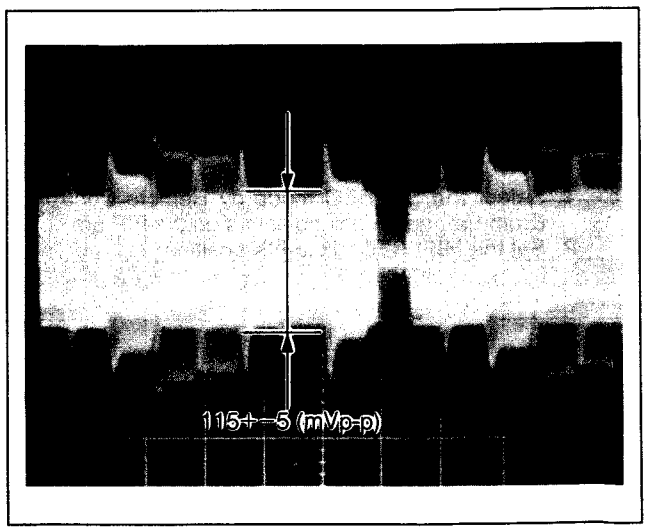


Fig. E33

POWER SECTION

2-5-31. REGULATOR 12V ADJUSTMENT

TP	ADJ.	MODE	INPUT
P1201-2	VR1201	STOP	
TAPE	M. EQ.	SPEC.	
	DIGITAL VOLT METER	11.5V+−0.1V	

Note: 1. Supply +12.5V DC to P1203-5.

AUDIO SECTION

2-5-32. BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (HOT) TP4003 (GND)	VR4001	RECORDING	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	2.5+−0.1 (mVrms)	

Note: 1. Set the S-VHS SW to OFF position.

2-5-33. HIFI E-E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO OUT (L)	VR4512	STOP	SINEWAVE 1KHz/−6dB (AUDIO IN (L))
TAPE	M. EQ.	SPEC.	
	V.T.V.M./ SINEWAVE GENERATOR	−8+−0.5 (dB)	

Note: 1. Select the STEREO mode by Remote Controller. (Both Left and Right indicators on the FIP are lit.)
2. Set the HIFI REC VR to FIX position.

2-5-34. CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-34 (L) IC4501-47 (R)	VR4501 (NTSC-L) VR4509 (NTSC-R) VR4551 (PAL-L) VR4552 (PAL-R)	SP RECORDING	
TAPE	M. EQ.	SPEC.	
BLANK TAPE	FREQUENCY COUNTER	NTSC-L: 1.3+−0.003 (MHz) NTSC-R: 1.7+−0.003 (MHz) PAL-L: 1.4+−0.003 (MHz) PAL-R: 1.8+−0.003 (MHz)	

Note: 1. When adjusting the NTSC mode, connect a jumper wire between TW 2 (on the Main C.B.A.) and GND.
2. When adjusting the PAL mode, disconnect a jumper wire.

2-5-35. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
BETWEEN VR4502 and R4511 (L) BETWEEN VR4507 and R4561 (R)	VR4502 (L) VR4507 (R)	SP RECORDING	SINEWAVE 1KHz/−6dB (AV1 IN)
TAPE	M. EQ.	SPEC.	
BLANK TAPE	V.T.V.M./ SINEWAVE GENERATOR	110 (mVrms)	

Note: 1. Before recording the sinewave, adjust the HIFI REC VR until the audio output level of AV1 is 400mVrms.

2-5-36. FM B.P.F. ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-33 (L) IC4501-48 (R)	VR4550	PLAYBACK	SINEWAVE 1.608MHz/ 400mVp-p (PS4003-8)
TAPE	M. EQ.	SPEC.	
NTSC RECORDED TAPE	V.T.V.M./ SINEWAVE GENERATOR	PAL: Lch (IC4501-33)= Rch (IC4501-48) NTSC: 0+−2.0 (dB)	

Note: 1. Disconnect P501 (from MAIN C.B.A. to HEAD AMP PACK C.B.A.).
2. Connect a jumper wire between PS4003-16 and GND to set the PAL mode.
3. The GND lead of oscilloscope must be connected to GND on HIFI AUDIO PACK C.B.A. to reduce the noise.
4. Supply the sinewave signal (1.608MHz/400mVp-p) to PS4003-8.
5. Adjust the level of the difference between L CH and R CH is equal.
6. Connect a jumper wire between TL47 (on the Main C.B.A.) and GND to set the NTSC mode.
7. Adjust the level of the difference between L CH and R CH is 0+−2.0 dB.
8. After this adjustment, connect P501 and disconnect the jumper wire.

2-5-37. LEVEL METER SENSITIVITY ADJUSTMENT

TP	ADJ.	MODE	INPUT
LEVEL METER ON THE FIP	VR4004	STOP	SINEWAVE 1KHz/−6dB (AUDIO IN (L), (R))
TAPE	M. EQ.	SPEC.	
	V.T.V.M./ SINEWAVE GENERATOR	0dB INDICATOR ON THE AUDIO LEVEL METER JUST LIGHTS UP	

Note: 1. Select the STEREO mode.
(Both Left and Right indicators on the FIP are lit.)
2. Before recording the sinewave, adjust the HIFI REC VR until the signal level at Audio Output Terminal is 400mVrms.

TIMER SECTION

2-5-38. TIMER REFERENCE CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL7501	VC7501	STOP	
TAPE	M. EQ.	SPEC.	
	UNIVERSAL COUNTER	7812.5+−0.015 (μsec)	

Memo

SECTION 3
ABBREVIATIONS & BLOCK DIAGRAMS

3-1. ABBREVIATIONS

443NT [L]	4.43 NTSC Ⓛ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ
A. DEF [S]	AUDIO DEFEAT
A. DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBING Ⓗ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓗ
A. MUTE [H]	AUDIO MUTE Ⓗ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EE Ⓗ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ/NORMAL
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓗ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER (R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIX Ⓛ
BIL	BILINGUAL
BIL [L]	BILINGUAL Ⓛ
BIL. [H]	BILINGUAL Ⓗ
BIL/M1 [L]	BILINGUAL Ⓛ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIX Ⓗ
BS MON [H]	BS MONITOR Ⓗ
BS MONI [H]	BS MONITOR Ⓗ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓗ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITOR Ⓗ
BS/VTR [H]	BS/VTR Ⓗ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (−)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (−)
CINEM [L]	CINEMA Ⓛ
CINEMA [L]	CINEMA Ⓛ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOUR Ⓗ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [−]	CONTROL HEAD (−)
CTL [+]	CONTROL HEAD (+)
CTL [−]	CONTROL HEAD (−)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMMITER
CYL ET	CYLINDER TORQUE CONTROL
CYL GND	CYLINDER GND
D.F.M. REC [H]	DELAIED FM RECORDING Ⓗ
D. FM REC [L]	DELAIED FM RECORDING Ⓛ
D. GND	DIGITAL GND

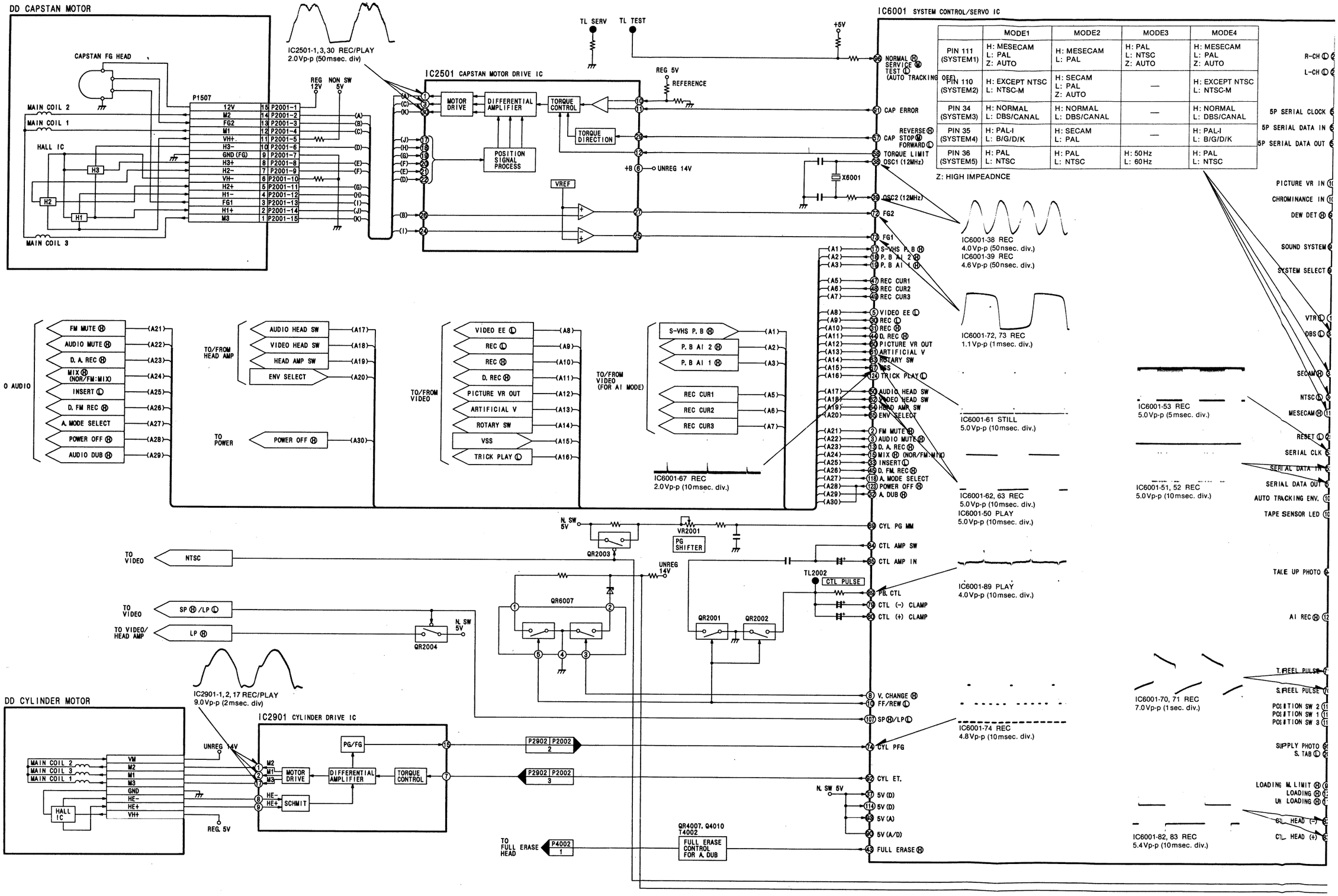
D. REC [H]	DELAYED RECORDING Ⓗ
D4/S. LED	D4/STILL LED
D4/STILLED	D4/STILL LED
DAC [CLK]	TUNER DAC (CLOCK)
DAC/FSCS	TUNER DAC/FS CHIP SELECT
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ
DATA	DATA
DECODER [L]	DECODER (L)
DECODER [R]	DECODER (R)
DEW	DEW
DEW SNS	DEW SENSOR
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ
E. REC 5V	EXCEPT RECORDING 5V
EC	ERROR TORQUE CONTROL
ECR	ERROR TORQUE CONTROL
	REFERENCE VOLTAGE
EDT TRIG [L]	EDIT TRIGGER Ⓛ
EDIT [H]	EDIT Ⓗ
EE [H]	EE Ⓗ
EE [H]/INS [M]	EE Ⓗ/INSERT Ⓜ
EE. VV. TR	EE/VV/TRICK PLAY
EJECT. PO	EJECT POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK
ENV. SEL	ENVELOPE SELECT
ENVE. OUT	ENVELOPE OUTPUT
ENVE. SEL	ENVELOPE SELECT
ENV SELECT	ENVELOPE SELECT
EP [H]	LP Ⓗ
EP/LP [H]	LP Ⓗ
EP/LP/SP	LP/SP
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ
EPROMCS	EPROM CHIP SELECT
EX. REC 5V	EXCEPT RECORDING 5V
FF/REW [L]	FIRST FORWARD/REWIND Ⓛ
FG1 IN	FG1 PULSE INPUT
FG2 IN	FG2 PULSE INPUT
FILTER ADJUSTMENT	FILTER ADJUSTMENT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ
FLY ON [H]	FLYING ERASE HEAD ON Ⓗ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ
FM MUT [H]	FM AUDIO MUTE Ⓗ
FM MUTE [H]	FM AUDIO MUTE Ⓗ
FM OUT [L]	FM OUTPUT (L)
FM OUT [R]	FM OUTPUT (R)
FM PACK OUT [L]	FM PACK OUTPUT (L)
FM PACK OUT [R]	FM PACK OUTPUT (R)
FM/BS SEL [L]	FM/BS SELECT (L)
FM/BS SEL [R]	FM/BS SELECT (R)
FS. CLK	FS CLOCK
FUL. E [H]	FULL ERASE HEAD ON Ⓗ
FULL. E [H]	FULL ERASE HEAD ON Ⓗ
FULL. E. 12V	FULL ERASE 12V
GND [A]	GND (ANALOG)
GND [TU]	GND (TUNER)
GND/N. SW. 12V	GND/NON SW 12V

H. SYNC	HORIZONTAL SYNC
H. AMP. SW	HEAD AMP SW PULSE
H. P <R>	HEAD PHONE (R)
H. P <L>	HEAD PHONE (L)
H. P GND	HEAD PHONE GND
H. P OUT [L]	HEAD PHONE OUTPUT (L)
H. P OUT [R]	HEAD PHONE OUTPUT (R)
H. SW	HEAD SW PULSE
HEAD PHONE [L]	HEAD PHONE (L)
HEAD PHONE [R]	HEAD PHONE (R)
HEAD SW	HEAD SW
HEATER [+]	HEATER (+)
HEATER [−]	HEATER (−)
HSS	HORIZONTAL SYNC SIGNAL
HTR [+]	HEATER (+)
HTR [−]	HEATER (−)
I RFE	REFERENCE CURRENT
ICL	CONTROL AGC CIRCUIT
IF	INTERMEDIATE FREQUENCY
IN SELA1	INPUT SELECT A1 POSITION
IN SELA2	INPUT SELECT A2 POSITION
IN SELA3	INPUT SELECT A3 POSITION
INS L/R [L]	INSERT Lch/Rch Ⓛ
INS. [H]	INSERT Ⓗ
INSEL A1	INPUT SELECT A1 POSITION
INSEL A2	INPUT SELECT A2 POSITION
INSERT	INSERT
INSERT [H]	INSERT Ⓗ
IO CS	INPUT/OUTPUT CHIP SELECT
JOG1	JOG1
JOG S3 LED/FOWRD	JOG LED/FORWARD LED
JOG/F. LED	JOG LED/FORWARD LED
JSB [H]	JSB Ⓗ
JST. CLCK	JUST CLOCK
JST. CLK	JUST CLOCK
JST. CLOCK	JUST CLOCK
L. OUT	Lch OUTPUT
L. CH [H]	Lch Ⓗ
L. CH [L]	Lch Ⓛ
LED (MAIN)	LED (MAIN)
LED (STEREO)	LED (STEREO)
LED (SUB)	LED (SUB)
LED CKL	LED SERIAL CLOCK
LED CKS	LED SERIAL CLOCK
LED DATA	LED SERIAL DATA
LINE IN 1 [L]	LINE INPUT 1 (L)
LINE IN 1 [R]	LINE INPUT 1 (R)
LINE IN 2 [L]	LINE INPUT 2 (L)
LINE IN 2 [R]	LINE INPUT 2 (R)
LINE IN V	LINE INPUT VIDEO
LINE IN [L]	LINE INPUT (L)
LINE IN [R]	LINE INPUT (R)
LINE OUT [L]	LINE OUTPUT (L)
LINE OUT [R]	LINE OUTPUT (R)
LP [H]	LP Ⓗ

LPTRI [L]	LP TRICK PLAY Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMAM INPUT
MES [H]	MESECAM Ⓗ
MESE [H]	MESECAM Ⓗ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓗ/BILIGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓗ
MIX [H]	MIX Ⓗ
MIX [H]/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINE	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MN. H/M. L	MONAURAL Ⓗ/MAIN Ⓛ
MN. H/MAI. L	MONAURAL Ⓗ/MAIN Ⓛ
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓗ
MONO [H]/MAIN [L]	MONAURAL Ⓗ/MAIN Ⓛ
MON02 [L]	MONAURAL 2
MON02/MESE [FM(L)]	MONAURAL 2/MESECAM (FM Ⓛ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDING
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓛ
NOL [H]	PAL Ⓗ/4.43 NTSC Ⓜ/3.58 NTSC Ⓛ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ
NORMAL [H]	NORMAL Ⓗ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT
P-OFF [H]	POWER OFF Ⓗ
P-OFF [L]	POWER OFF Ⓛ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓗ
P. OFF [L]	POWER OFF Ⓛ
PAL [H]	PAL Ⓗ
PAL [L]/NTSC [H]	PAL Ⓛ/NTSC Ⓗ
PB ADJ OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓗ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R. LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓗ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓗ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓗ
R. CH [L]	Rch Ⓛ
R. ST	RESET
R/S/F	REVERSE Ⓗ/STOP Ⓜ/FORWARD Ⓛ
RCH [H]	Rch Ⓗ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDING Ⓗ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUT Ⓛ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓗ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE (TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOTOR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [−]	REVIEW MOTOR (−)
REV. M. GND	REVIEW MOTOR GND
RF. CHROMA	RF CHROMINANCE SIGNAL
RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S. TAB [L]	SAFETY TAB SW ON Ⓛ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓗ
SLNID [+]	SOLENOID (+)
SLNID [−]	SOLENOID (−)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓗ
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ/NORMAL Ⓗ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓗ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOP
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓗ
STEREO [L]	STEREO Ⓛ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL:ST	STOP1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2/S-TAB	STOP 2 POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓗ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE
T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ/CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRIC PLAY Ⓛ
TRICK [L]	TRIC PLAY Ⓛ
TRK. ENV	AUTO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓗ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓗ
V. EE [L]	VIDEO EE Ⓛ
VCO REF	REFERENCE OSCILLATER
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓛ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓗ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

3-2. SYSTEM CONTROL & SERVO BLOCK DIAGRAM



NTROL/SERVO IC

	MODE1	MODE2	MODE3	MODE4
PIN 111 SYSTEM1)	H: MESECAM L: PAL Z: AUTO	H: MESECAM L: PAL	H: PAL L: NTSC Z: AUTO	H: MESECAM L: PAL Z: AUTO
IEF) PIN 110 SYSTEM2)	H: EXCEPT NTSC L: NTSC-M	H: SECAM L: PAL Z: AUTO	—	H: EXCEPT NTSC L: NTSC-M
PIN 34 SYSTEM3)	H: NORMAL L: DBS/CANAL	H: NORMAL L: DBS/CANAL	—	H: NORMAL L: DBS/CANAL
PIN 35 SYSTEM4)	H: PAL-I L: B/G/D/K	H: SECAM L: PAL	—	H: PAL-I L: B/G/D/K
PIN 36 SYSTEM5)	H: PAL L: NTSC	H: PAL L: NTSC	H: 50Hz L: 60Hz	H: PAL L: NTSC

HIGH IMPEADNCE

IC6001-38 REC
4.0Vp-p (50nsec. div.)
IC6001-39 REC
4.6Vp-p (50nsec. div.)

IC6001-72, 73 REC
1.1Vp-p (1msec. div.)

IC6001-61 STILL
5.0Vp-p (10msec. div.)

IC6001-62, 63 REC
5.0Vp-p (10msec. div.)
IC6001-50 PLAY
5.0Vp-p (10msec. div.)

IC6001-89 PLAY
4.0Vp-p (10msec. div.)

IC6001-74 REC
4.8Vp-p (10msec. div.)

IC6001-53 REC
5.0Vp-p (5msec. div.)

IC6001-51, 52 REC
5.0Vp-p (10msec. div.)

IC6001-70, 71 REC
7.0Vp-p (1sec. div.)

IC6001-82, 83 REC
5.4Vp-p (10msec. div.)

R-CH ㉓
L-CH ㉒
5P SERIAL CLOCK ㊺
5P SERIAL DATA IN ㊺
5P SERIAL DATA OUT ㊹
PICTURE VR IN ⑩①
CHROMINANCE IN ⑩②
DEW DET Ⓗ ㉙
SOUND SYSTEM ㊳
SYSTEM SELECT ㊲
VTR Ⓛ ①
DBS Ⓛ ㉞
SECAM Ⓗ ㉟
NTSC Ⓛ ㊱
MESECAM Ⓗ ⑪①
RESET Ⓛ ㉕
SERIAL CLK ㊸
SERIAL DATA IN ㊷
SERIAL DATA OUT ㊶
AUTO TRACKING ENV. ⑩⑤
TAPE SENSOR LED ⑩⑥
TAKE UP PHOTO ㉔
AI REC Ⓗ ⑫②
T. REEL PULSE ⑦①
S. REEL PULSE ⑦⓪
POSITION SW 2 ⑪⑥
POSITION SW 1 ⑪⑤
POSITION SW 3 ⑪⑦
SUPPLY PHOTO ㉕
S. TAB Ⓛ ⑳
LOADING M. LIMIT Ⓗ ⑨
LOADING Ⓗ ⑫
UN LOADING Ⓗ ⑪
CTL HEAD (–) ㊷
CTL HEAD (+) ㊸

P6002 P3901 1 1
P6002 P3901 2 2
P4001 P6503 10 10
P4003 6
P4003 6

JK3904 (MONTAGE)
+5V
PICTURE CONTROL
VR6501
SERVO 5V
VR3014 ANC
N. SW 5V
Q6001
D6005 SENSOR LED
40msec
120msec
LED ON
Q6002 TAKE UP PHOTO TR.
QR6003
QR6002
REG 5V
IC6003 T. REEL SNS
IC6002 S. REEL SNS
IC6004 LOADING MOTOR DRIVE
CTL HEAD
IC2001-1. 9 (V)
IC2001-7 (V)
UNREG. 14V
LOADING MOTOR
S6001 S. TAB
Q6003 SUPPLY PHOTO TR.

SELECT	L-CH IN	R-CH IN
L-CH	L	H
R-CH	H	L
L+R-CH	L	L
NORMAL	H	H

FROM AUDIO

STEREO Ⓛ
MONO 2 Ⓛ
MONO 1 Ⓛ
FROM DECODER

VTR Ⓛ
DBS Ⓛ
TO I/O PACK

SECAM Ⓗ TO TUNER

MESECAM Ⓗ TO VIDEO

SERIAL DATA
SERIAL CLOCK
RESET Ⓛ
TO OSD

P3003 P7501 25 8 POWER FAIL Ⓛ
P3003 P7501 13 20 SERIAL CLOCK
P3003 P7501 14 19 SERIAL DATA

TRACKING ENV. FROM HEAD AMP

AI REC Ⓗ TO VIDEO

P6001
GND 1
POSI. SW 2 2
POSI. SW 1 3
POSI. SW 3 4
MODE SW

INPUT PIN5	INPUT PIN6	OUTPUT PIN1	OUTPUT PIN9	MODE
L	L	OPEN	OPEN	STOP
H	L	L	H	FORWARD
L	H	H	L	REWIND
H	H	L	L	BRAKE

IC7501 TIMER IC

WHEN SERVICING THE SUPER CAPACITOR, DO NOT SHORT BOTH (+) AND (–) TERMINAL.

C1023 (0.047F)
N. SW 5V
IC7504 RESET
IC7505 RESET
IC7503 IR RECEIVER UNIT
STAND BY D6503
QR6502
CVC D6504
QR6501
32KHz (BACK UP)
X7501
VC7501 TIMER OSC
X7502
4. 19MHz

P3003 P7501 24 9 VCC

TO AUDIO
TO/FROM OSD
TO VIDEO
TO TUNER
TO DECODER
TO I/O PACK

P3003 P7501 4 28 SEL MUTE Ⓗ
P3003 P7501 11 22 TIMER CLK
P3003 P7501 10 23 TIMER LSN
P3003 P7501 9 24 TIMER TLK
P3003 P7501 21 12 CARA ON Ⓗ
P3003 P7501 8 25 FS CLK
P3003 P7501 6 27 FS CS Ⓗ
P3003 P7501 5 28 AUDIO DEF Ⓗ
P3003 P7501 16 17 INPUT SEL A
P3003 P7501 17 16 INPUT SEL B
P3003 P7501 26 7 AV2 OUT Ⓛ
P3003 P7501 23 10 OSD ON Ⓗ
P6503 P7504 15 10 STANBY Ⓛ

IC7501-17, 18 STOP
5.0Vp-p (10msec. div.)

IC7501-19 STOP
5.0Vp-p (10msec. div.)

128Hz
GRID 15
GRID 6
SEG 13
SEG 4
SHUTTLE CONTROL
JOG 2
JOG 1

IC7501-41
IC7501-40
IC7501-39
IC7501-38
IC7501-37
IC7501-36
IC7501-35
IC7501-34
IC7501-33
IC7501-32

IR
POWER FAIL Ⓛ
SERIAL CLOCK
SERIAL DATA OUT
SERIAL DATA IN

IC7501-58 STOP
2.0Vp-p (0.2μsec. div.)
IC7501-59 STOP
5.2Vp-p (0.2μsec. div.)

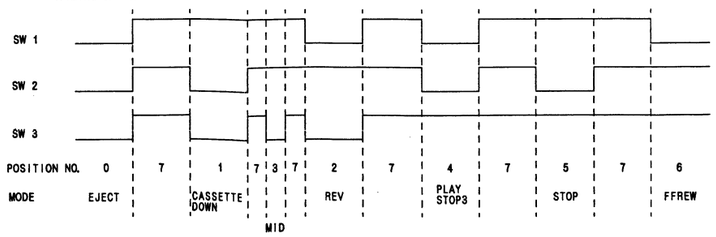
X OUT
X IN
X C OUT
X C IN
AI ON Ⓗ

IC7501-62 STOP
2.8Vp-p (10μsec. div.)
IC7501-61 STOP
1.5Vp-p (10μsec. div.)

KEY IN 1
KEY IN 2
METER ON Ⓛ
–29V
FIP ON Ⓛ

P3003 P7501 19 14 MONO Ⓗ
TO TUNER

POSITION SW <TIMING CHART>



SELECT	L-CH IN	R-CH IN
L-CH	L	H
R-CH	H	L
L+R-CH	L	L
NORMAL	H	H

WHEN SERVICING THE SUPER CAPACITOR, DO NOT SHORT BOTH (+) AND (−) TERMINAL.

C1023 (0.047F)

N. SW 5V

IC7504

IC7501 TIMER IC

P3003	P7501	
24	9	VCC
4	29	SEL MUTE Ⓗ
11	22	TIMER CLK
10	23	TIMER LSN
9	24	TIMER TLK
21	12	CARA ON Ⓗ
8	25	FS CLK
6	27	FS CS Ⓗ
5	28	AUDIO DEF Ⓗ
16	17	INPUT SEL A
17	16	INPUT SEL B
26	7	AV2 OUT Ⓛ
23	10	OSD ON Ⓗ
P6503	P7504	
15	10	STANBY Ⓛ

TO AUDIO / TO/FROM OSD / TO VIDEO / TO TUNER / TO DECODER / TO I/O PACK

IC7501-17, 18 STOP
5.0Vp-p (10msec. div.)

IC7501-19 STOP
5.0Vp-p (10msec. div.)

STAND BY D6503

QR6502

IC7505

IC7503 IR RECEIVER UNIT

IR

SERIAL DATA
SERIAL CLOCK
RESET Ⓛ
TO OSD

P3003	P7501	
25	8	POWER FAIL Ⓛ
13	20	SERIAL CLOCK
14	19	SERIAL DATA

POWER FAIL Ⓛ
SERIAL CLOCK
SERIAL DATA OUT
SERIAL DATA IN

IC7501-58 STOP
2.0Vp-p (0.2μsec. div.)
IC7501-59 STOP
5.2Vp-p (0.2μsec. div.)

TRACKING ENV. FROM HEAD AMP

32KHz (BACK UP)
X7501
VC7501 TIMER OSC
X OUT
X IN

X C OUT
X7502
4.19MHz
X C IN

IC7501-62 STOP
2.8Vp-p (10μsec. div.)

AI REC Ⓗ TO VIDEO

AI ON Ⓗ

CVC D6504
QR6501

IC7501-61 STOP
1.5Vp-p (10μsec. div.)

P3003	P7501	
19	14	TO TUNER

MONO Ⓗ

MODE SW

POSITION SW <TIMING CHART>

LOADING MOTOR

S6001 S. TAB

Q6003 SUPPLY PHOTO TR.

SW 1													
SW 2													
SW 3													
POSITION NO.	0	7	1	7	3	7	2	7	4	7	5	7	6
MODE	EJECT		CASSETTE DOWN		MID		REV		PLAY STOP3		STOP		FFREW

DP7501

TL7501

128Hz

GRID 15 / GRID 8
SEG 13 ~ SEG 4
GRID SIGNALS
SEGMENT SIGNALS

SHUTTLE CONTROL

DIG7 QR7508
DIG6 QR7507
DIG13 QR7506
DIG12 QR7505

P7503	
4	
3	
2	
1	
7	
6	

JOG 2
JOG 1

S7512 (JOG/SHUTTLE)

TIMER DISPLAY

+B

L Ⓗ R Ⓗ F− F− F+ F+

SEGMENT SIGNALS FOR LEVEL METER.

QR7510 (R-CHⓁ:ON)
QR7509 (L-CHⓁ:ON)

P7501	P3003	
31	2	FROM POWER
2	31	FROM AUDIO
1	32	FROM AUDIO

SERVO 5V

IC7506 (METER DRIVE)

SEG0 ~ SEG12
GRID2
GRID1
VCC
METER L-CH IN
METER R-CH IN
FIX 2
FIX 1
VR4004 METER ADJ.

QR7513
QR7512

P7501	P3003	
5	28	FROM AUDIO
7501	P3003	FROM AUDIO
3	30	FROM AUDIO
7501	P3003	FROM AUDIO
4	29	FROM AUDIO

QR7511 (METER ONⓁ:ON)

PAUSE
MISE A ZERO
INSERT
CANAL ∨
CANAL ∧
ENR PROG
DOUBLAGE SON
CVC
ENR
STOP
LECTURE
EJECT
VIDEO

SEG 13
SEG 12
SEG 9
SEG 8
SEG 7
SEG 6
SEG 4
SEG 11
SEG 10

KEY MATRIX

OUT \ IN	26	25
42 (SEG 13)	MISE A ZERO	PAUSE
43 (SEG 12)	INSERT	——
44 (SEG 11)	EJECT	——
45 (SEG 10)	——	VIDEO
46 (SEG 9)	CANAL ∧	CANAL ∨
47 (SEG 8)	DOUBLAGE SON	ENR PROG
48 (SEG 7)	CVC	——
49 (SEG 6)	ENR	——
51 (SEG 4)	LECTURE	STOP

KEY IN 1
KEY IN 2
METER ON Ⓛ
−29V
FIP ONⓁ

P7501	P3003	
32	1	

Q1006

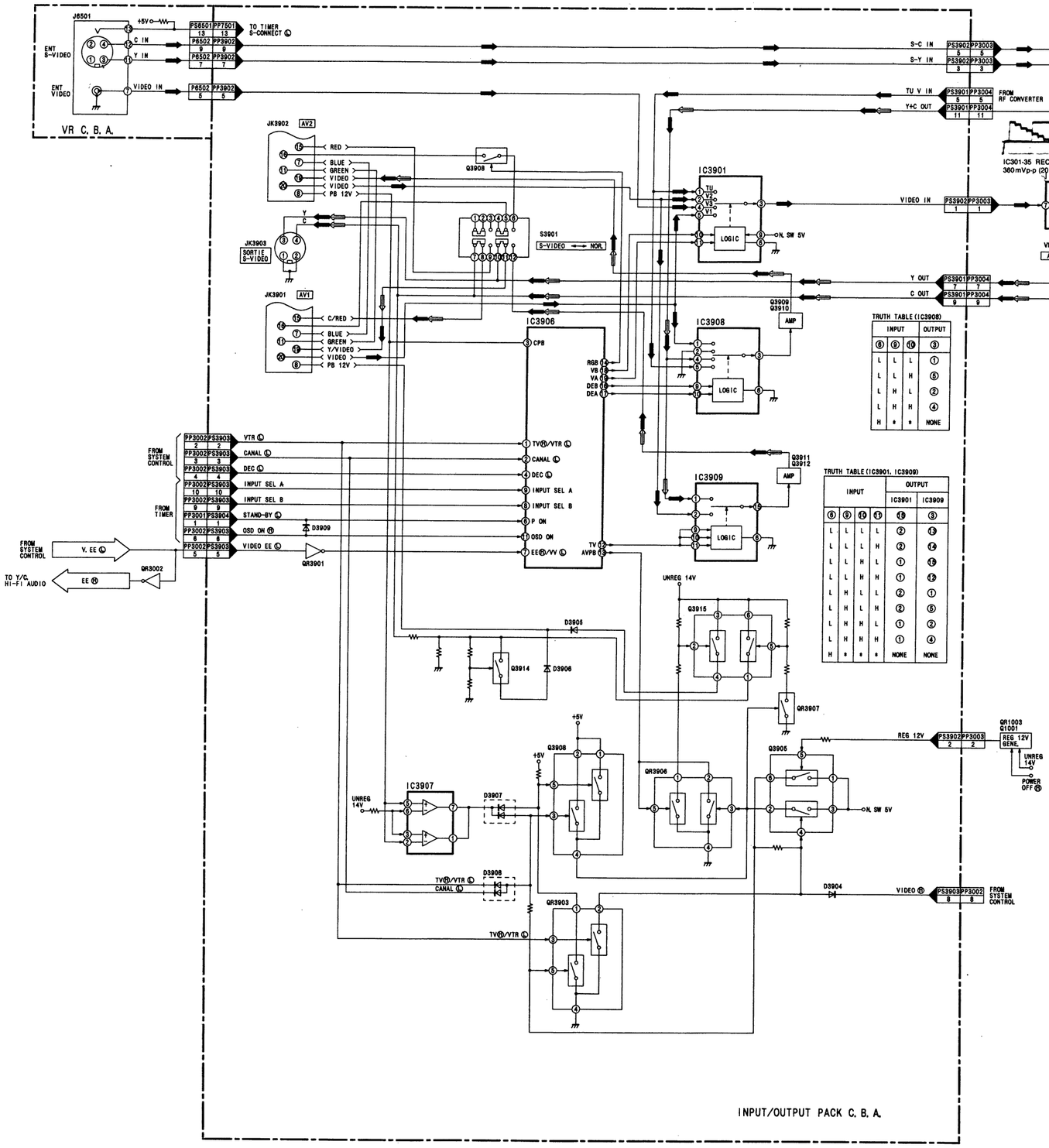
HEATER (+)
−29V
FIP Ⓛ

P1001	P1102	
2	2	TO/FROM POWER
P1001	P1102	TO/FROM POWER
1	1	TO/FROM POWER
P1001	P1102	TO/FROM POWER
4	4	TO/FROM POWER

N. SW 5V
QR1001
Q1007

P7501	P3003	
30	3	
P7501	P3003	
6	27	

3-3. LUMINANCE & CHROMINANCE BLOCK DIAGRAM



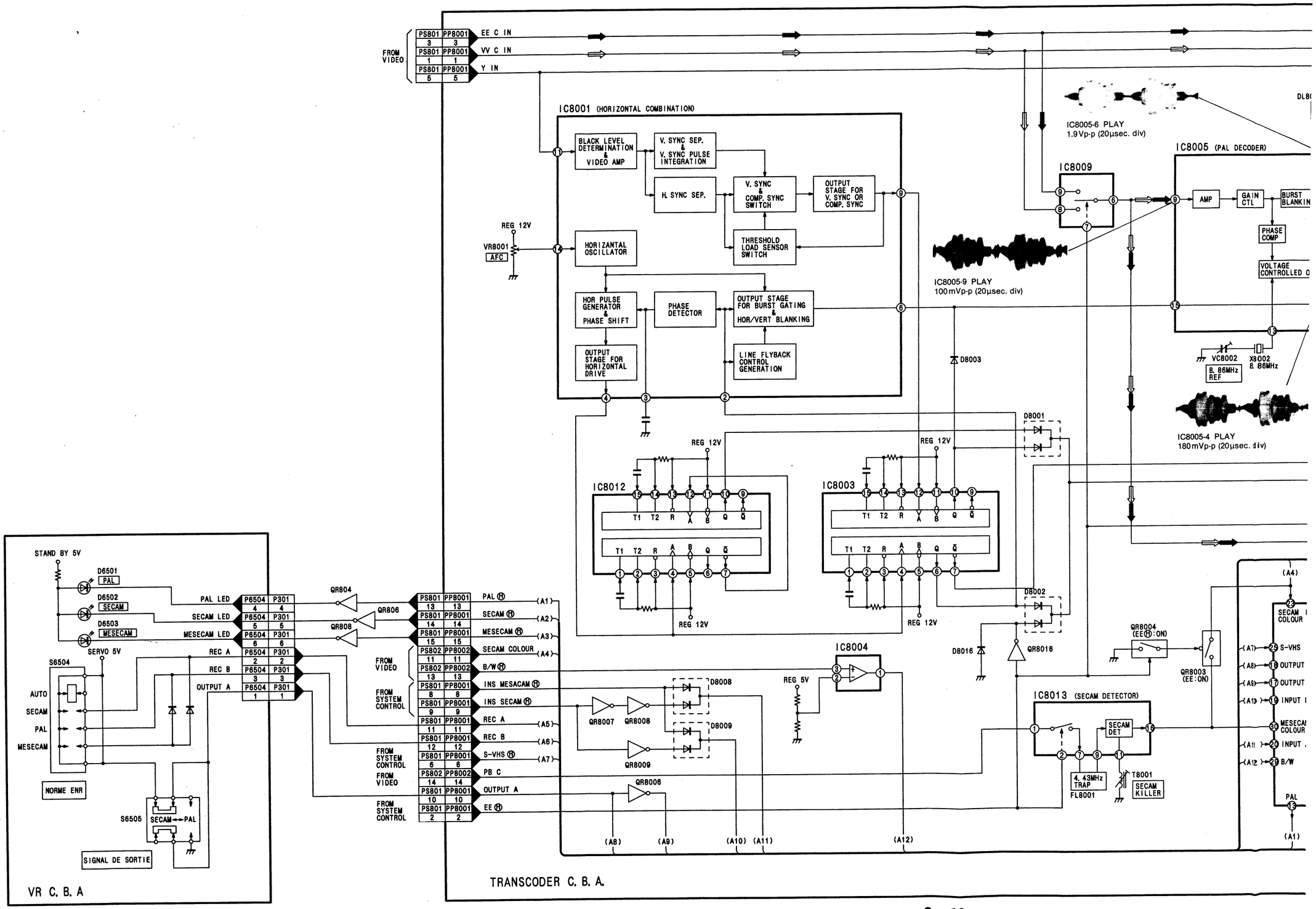
MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

LUMINANCE & CHROMINANCE PACK C. B. A.

HEAD AMP C. B. A.

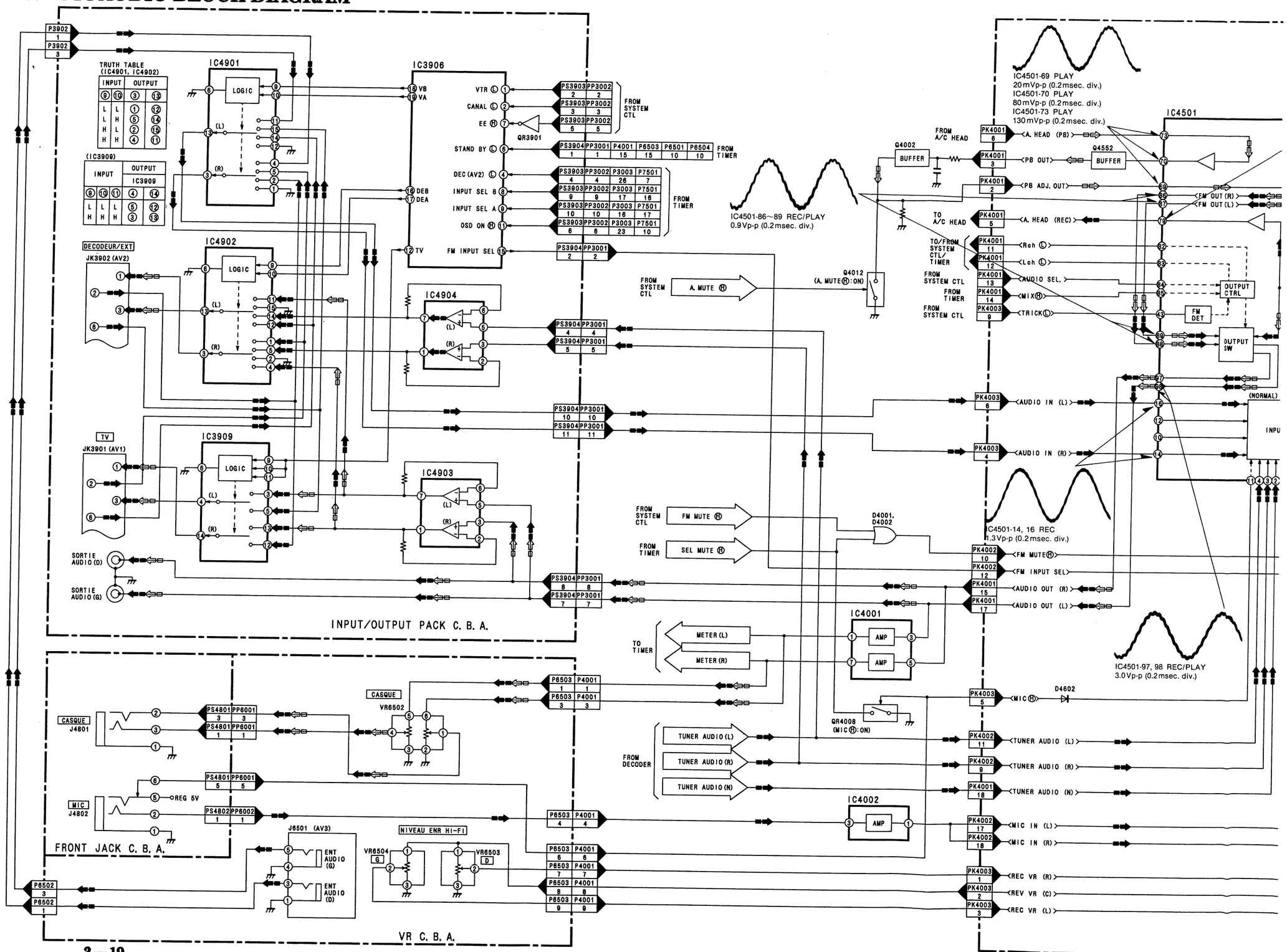
3-4. TRANSCODER BLOCK DIAGRAM



MAIN SIGNAL PATH IN REC MODE ⇐ MAIN SIGNAL PATH IN PLAYBACK MODE

IC8005 (PAL DECODER)
AMP
GAIN CTL
BURST BLANKING
PHASE COMP
VOLTAGE CONTROLLED OSC
IDENT DEMODU
2/H SW
COLOUR SWITCHING CTL
SANDCASTLE DETECTOR
PAL SW
F. F.
R-Y DEMODU
B-Y DEMODU
OUTPUT
DL8002 1H DELAY
COMB BAL
VR8005
L8010 COMB PHASE
VC8002 8.86MHz REF
X8002 8.86MHz
TL8009
IC8006 (SECAM ENCODER)
CL/BL
MATRIX SWITCH SEQUENCE
L. P. F. PRE EMPH.
CLAMP
ADDER GAIN LIM.
FM MOD. PHASE SWITCH
B. P. F.
CHRO. BLANKING
ADDER
PHASE DET.
4. 40MHz VCO
DIV. 282
DIV. 272
SWITCH
SYNC SEP.
PHASE GEN.
4. 25MHz VCO
L. P. F. (4. 25MHz)
R8030 C8056, 8057
X8003
L. P. F. (4. 40MHz)
R8022 C8061, 8062
REG 5V
VR8007 BELL
IC8007 2 DIV.
IC8006-1 PLAY 1.1Vp-p (20µsec. div)
IC8006-3 PLAY 1.3Vp-p (20µsec. div)
IC8006-18 PLAY 400mVp-p (20µsec. div)
IC8006-29 PLAY 800mVp-p (20µsec. div)
IC8005-4 PLAY 180mVp-p (20µsec. div)
IC8002-3 REC 100mVp-p (20µsec. div)
IC8002-14 REC 530mVp-p (20µsec. div)
IC8011
IC8010
IC8009
REC TRANS OUT
CPN TRANS OUT
CPN TRANS Ⓗ
REC TRANS Ⓗ
CPSV PAL
OUT PAL Ⓛ
PP8002 PS802
PP8001 PS801
TO VIDEO
TL8003
IC8002 (SECAM/PAL TRANSCODER)
LIMITER
CHROMA DEMODU
H/2 SW
R-Y CLAMP
B-Y CLAMP
DE-EMPHASIS
IDENTIFICATION DEMODU
IDENTIFICATION SECAM/SECAM
F. F.
F. F. TRAIGGER GENE.
PAL MODULATOR (B-Y) (R-Y)
0° -90° +90°
PHASE SHIFT
MIX
SANDCASTLE DETECTOR
IC8008 (INPUT/OUTPUT CONTROLLER)
SECAM COLOUR
REC A
REC B
EE
S-VHS
OUTPUT A
OUTPUT B
INPUT B
MESECAM COLOUR
INPUT A
B/W
ENB PS
ENB SP
CPSV PAL
REC SP
REC PS
CAN PS
CAN SP
PAL-G
PAL SECAM MESECAM
IC8004
REG 12V
QR8004 (EEⒽ:ON)
QR8003 (EE:ON)
QR8011
QR8010
QR8012
QR8013
D8007
D8010
D8011
D8005
L8007 4. 43MHz B. P. F.
VR8003 Q LEVEL
TL8005
VR8004 PAL LEVEL
VR8002 PAL BAL
1H DELAY DL8001
X8001
VC8001 4. 43MHz REF
Q8005 AMP
Q8004 BUFFER
QR8005 (PAL-GⒽ:ON)
SECAM KILLER
IC8002-11 REC 160mVp-p (20µsec. div)
IC8002-12 REC 160mVp-p (20µsec. div)

3-5. Hi-Fi AUDIO BLOCK DIAGRAM



MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

IC4501-79 REC
2.0Vp-p (0.2msec. div.)

IC4501-53, 54 REC/PLAY
0.9Vp-p (0.2msec. div.)

IC4501-97, 98 REC/PLAY
3.0Vp-p (0.2msec. div.)

IC4501-27, 28 REC/PLAY
0.9Vp-p (0.2msec. div.)

IC4501-42 PLAY
5.0Vp-p (10msec. div.)

P501-19 REC
120mVp-p (10μsec. div)

P501-17 PLAY
1.2Vp-p (10μsec. div)

IC4501
Q4552 BUFFER
OUTPUT CTRL
OUTPUT SW
FM DET
SW
ATT
EVR
LPF
PEAK NOISE REDUCTION
NOISE REDU. EMPHASIS
D. O. C.
HOLD M. M.
INPUT SW
(NORMAL)
(Rch)
(Lch)
EVR REF. V
P. OFF
MOD/DEM.
CTL
B. P. F.
C4565
C4516
Rch REC PB LEV. VR4507
Rch FREQ. VR4509
REG 5V
QR4509
D4501
VR4552 MULTI Rch FREQ.
QR4510
VR4550 BPF FREQ.
MULTI Lch FREQ. VR4551
QR4508
VR4502 Lch REC PB LEV.
VR4501 Lch FREQ.
VR4512 EE LEVEL
<FM OUT (R)>
<FM OUT (L)>
<PAL(L)>
<REC IN>
<RF OUT>
<A. H. SW>
<EE/REC/PB CTL>
<EE(H)/INSERT(H)>
<POWER OFF(L)>
PK4003 16
PK4003 15
PK4003 8
PK4003 13
PK4001 10
PK4001 9
PK4001 1
QR4001
NTSC(L)/PAL(H) FROM SYSTEM CTL

CTL / VTR MODE	D. A REC (81 PIN)	EE (80 PIN)	AUDIO MODE FM	AUDIO MODE NORMAL
STOP	H	H	EE	EE
REC	L	H	REC	REC
P. B	H	L	P. B	P. B
INSERT	H	M	REC	P. B
A. DUB	L	L	P. B	REC

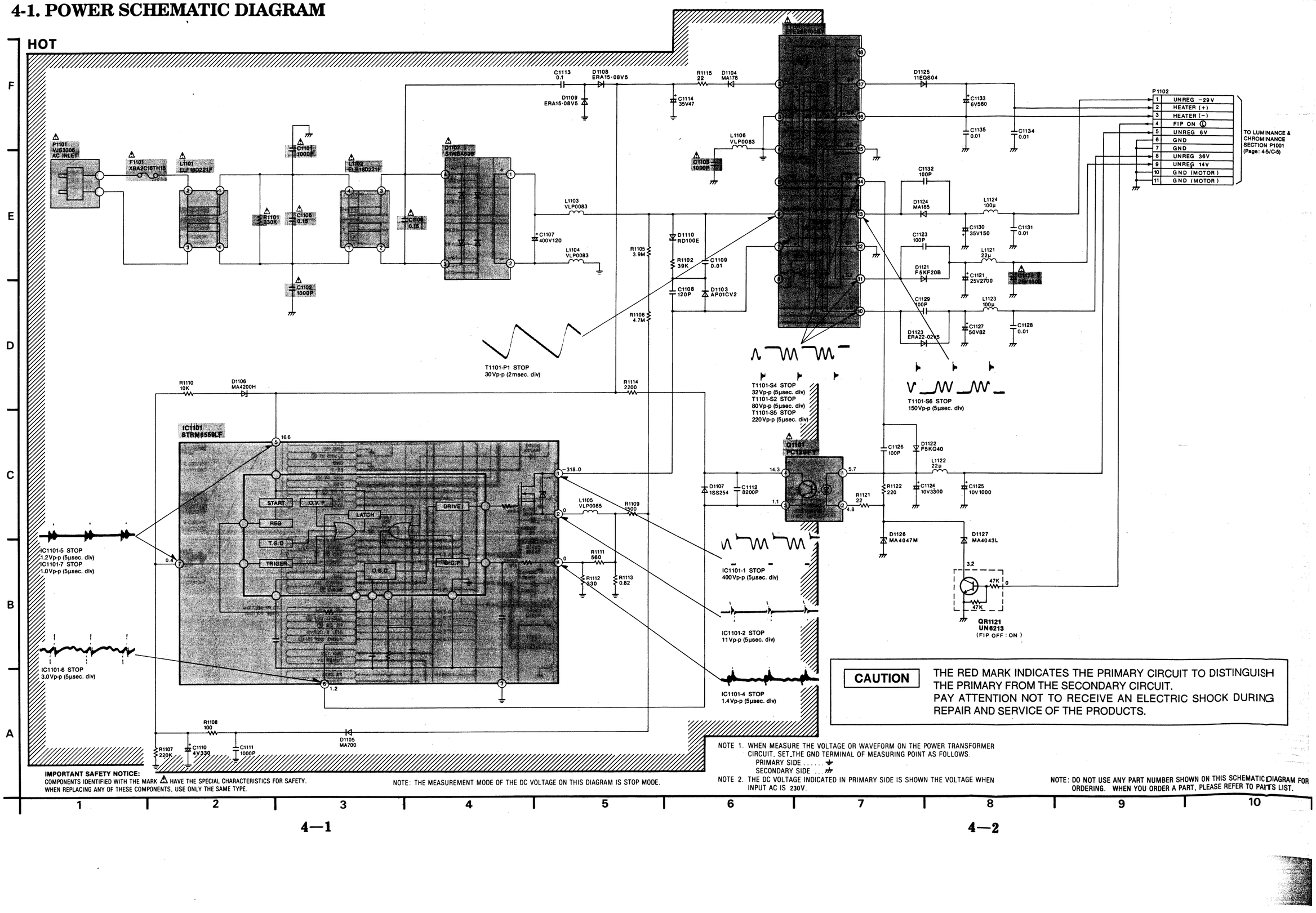
IC551
REC AMP
P. B:ON
PRE AMP
VCA
SW
REC:ON
P3001 P501 2 19
P3001 P501 4 17
P502 9
P502 8
P502 10
HI-FI AUDIO HEAD L
HI-FI AUDIO HEAD R
AUDIO HEAD-R
AUDIO HEAD-L
FROM SYSTEM CTL
P3001 P501 5 16
<A. H. SW>
P3001 P501 1 20
<FLY ERASE (H)>
Q501. Q502
AMP
P502 11
P502 12
FLYING ERASE HEAD
IC502
OSC
OUTPUT DRIVE
HEAD AMP C. B. A.

NON SW 5V
QR4003 (D. A. REC(H):ON)
QR4004 (A. DUB(H):ON)
QR4004 (POWER OFF(H):ON)
D. A. REC (H)
A. DUB (H)
INSERT (L)
V. EE(L)
POWER OFF (H)
FROM SYSTEM CTL
FROM VIDEO

Hi-Fi AUDIO PACK C. B. A.

SECTION 4
SCHEMATIC DIAGRAMS

4-1. POWER SCHEMATIC DIAGRAM



4-2. POWER C.B.A. (VEP01639B)

POWER C.B.A.	
Transistor	
Q1101	B-4
Transistor & Resistor	
QR1121	B-5
Integrated Circuit	
IC1101	A-3
Connector	
P1101 P1102	B-1 B-6

ADDRESS INFORMATION

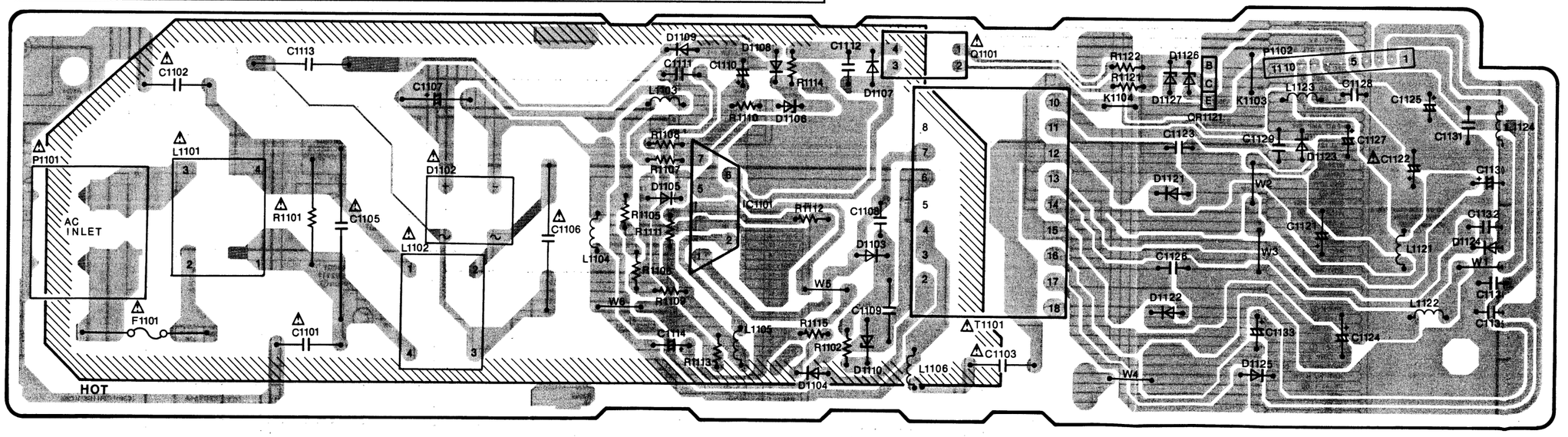
P1102

1	UNREG −29V	TO LUMINANCE & CHROMINANCE SECTION P1001 (Page: 4-5/C-5)
2	HEATER (+)	
3	HEATER (−)	
4	FIP ON ⓘ	
5	UNREG 6V	
6	GND	
7	GND	
8	UNREG 36V	
9	UNREG 14V	
10	GND (MOTOR)	
11	GND (MOTOR)	

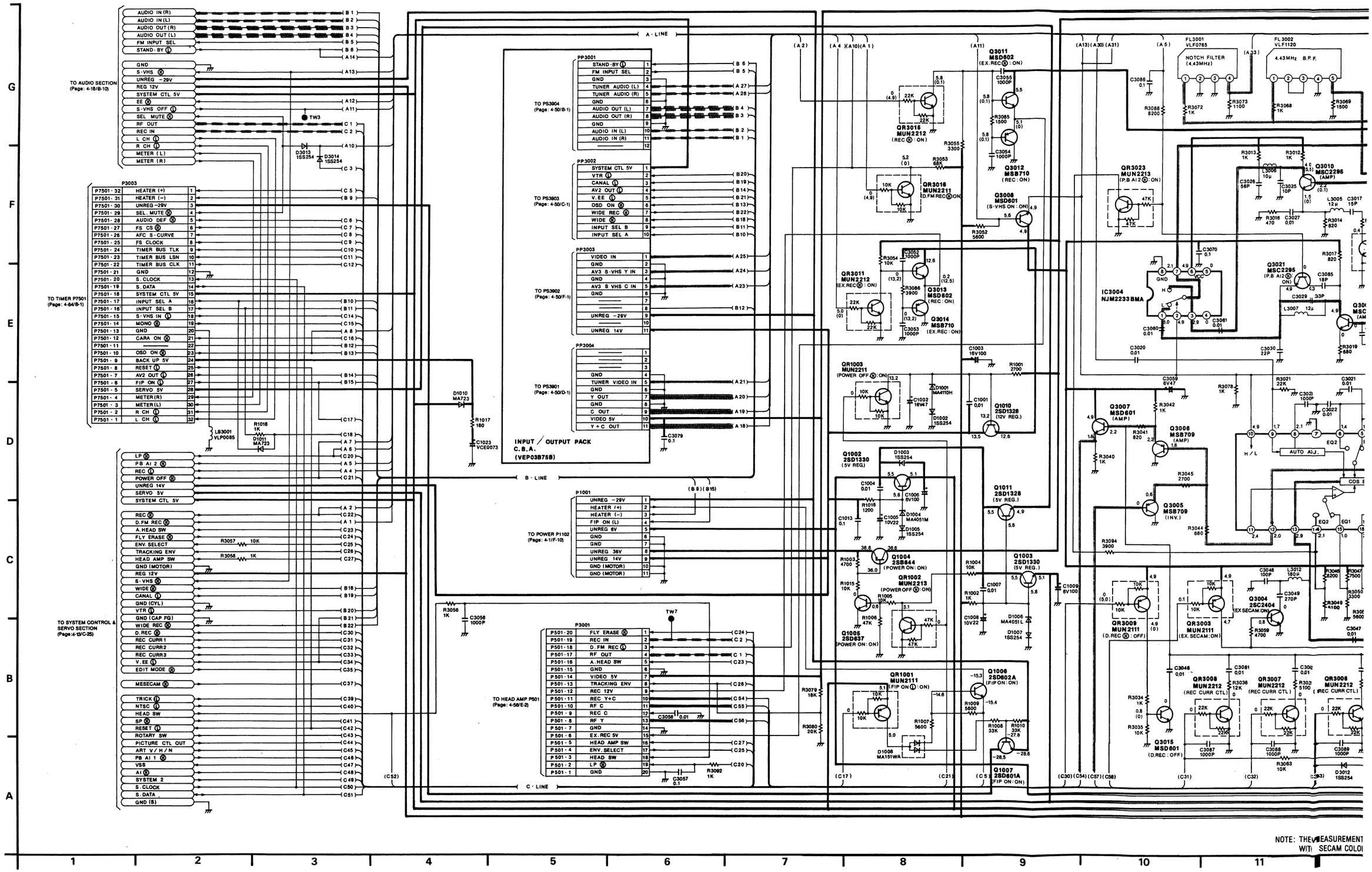
CAUTION THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

CIRCUIT TO DISTINGUISH
CUIT.
ECTRIC SHOCK DURING

NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDER A PART, PLEASE REFER TO PARTS LIST.

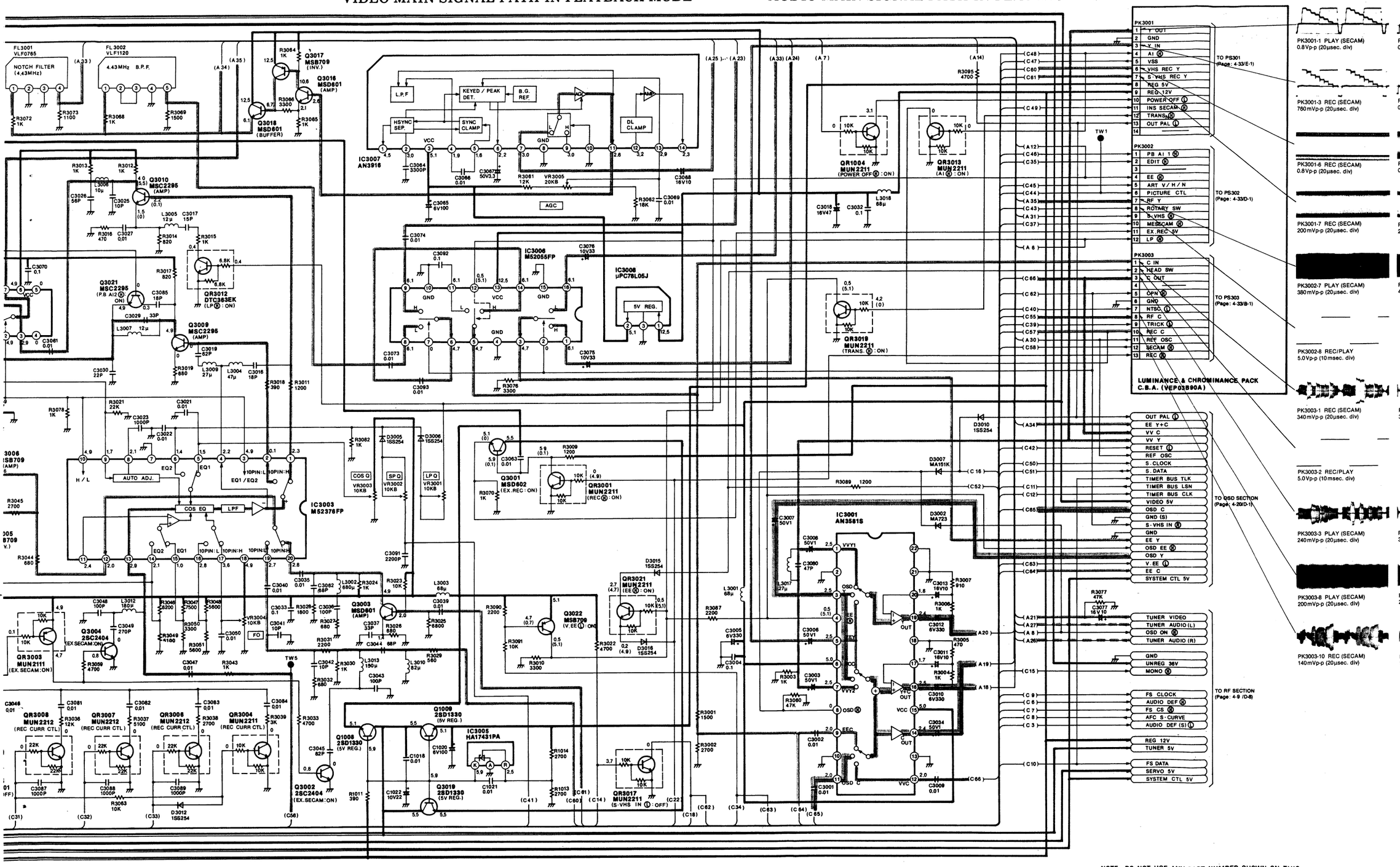


4-3. LUMINANCE & CHROMINANCE SECTION IN MAIN SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT
WITH SECAM COLO

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



PK3001-1 PLAY (SECAM) 0.8Vp-p (20µsec. div)
PK3001-1 PLAY (PAL) 0.9Vp-p (20µsec. div)
PK3001-3 REC (SECAM) 760mVp-p (20µsec. div)
PK3001-3 REC (PAL) 0.9Vp-p (20µsec. div)
PK3001-6 REC (SECAM) 0.8Vp-p (20µsec. div)
PK3001-6 REC (PAL) 0.8Vp-p (20µsec. div)
PK3001-7 REC (SECAM) 200mVp-p (20µsec. div)
PK3001-7 REC (PAL) 200mVp-p (20µsec. div)
PK3002-7 PLAY (SECAM) 380mVp-p (20µsec. div)
PK3002-7 PLAY (PAL) 400mVp-p (20µsec. div)
PK3002-8 REC/PLAY 5.0Vp-p (10msec. div)
PK3003-1 REC (SECAM) 340mVp-p (20µsec. div)
PK3003-1 REC (PAL) 320mVp-p (20µsec. div)
PK3003-2 REC/PLAY 5.0Vp-p (10msec. div)
PK3003-3 PLAY (SECAM) 240mVp-p (20µsec. div)
PK3003-3 PLAY (PAL) 300mVp-p (20µsec. div)
PK3003-8 PLAY (SECAM) 200mVp-p (20µsec. div)
PK3003-8 PLAY (PAL) 200mVp-p (20µsec. div)
PK3003-10 REC (SECAM) 140mVp-p (20µsec. div)
PK3003-10 REC (PAL) 160mVp-p (20µsec. div)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

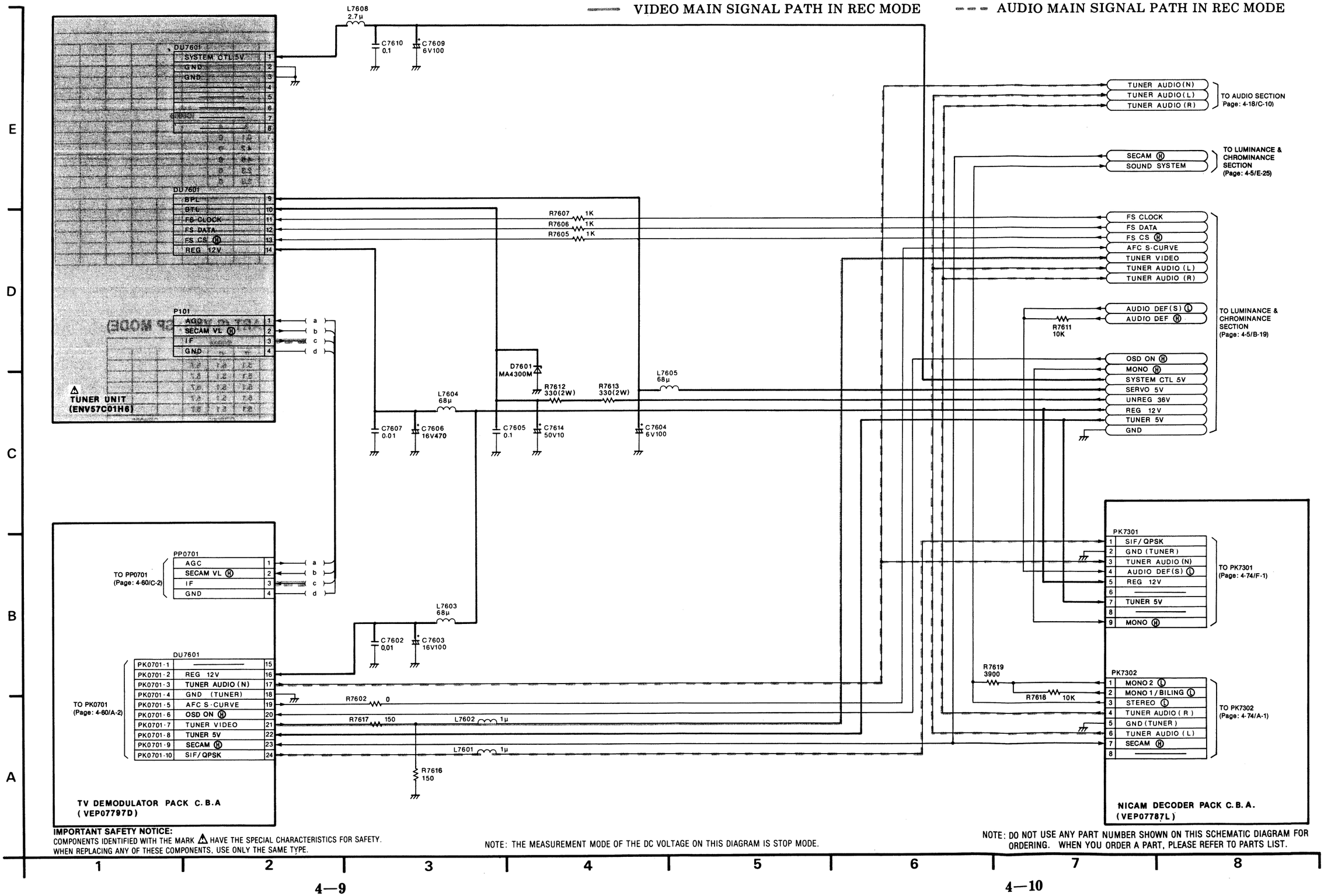
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-4. RF SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE

AUDIO MAIN SIGNAL PATH IN REC MODE



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (S-VHS: SP MODE)

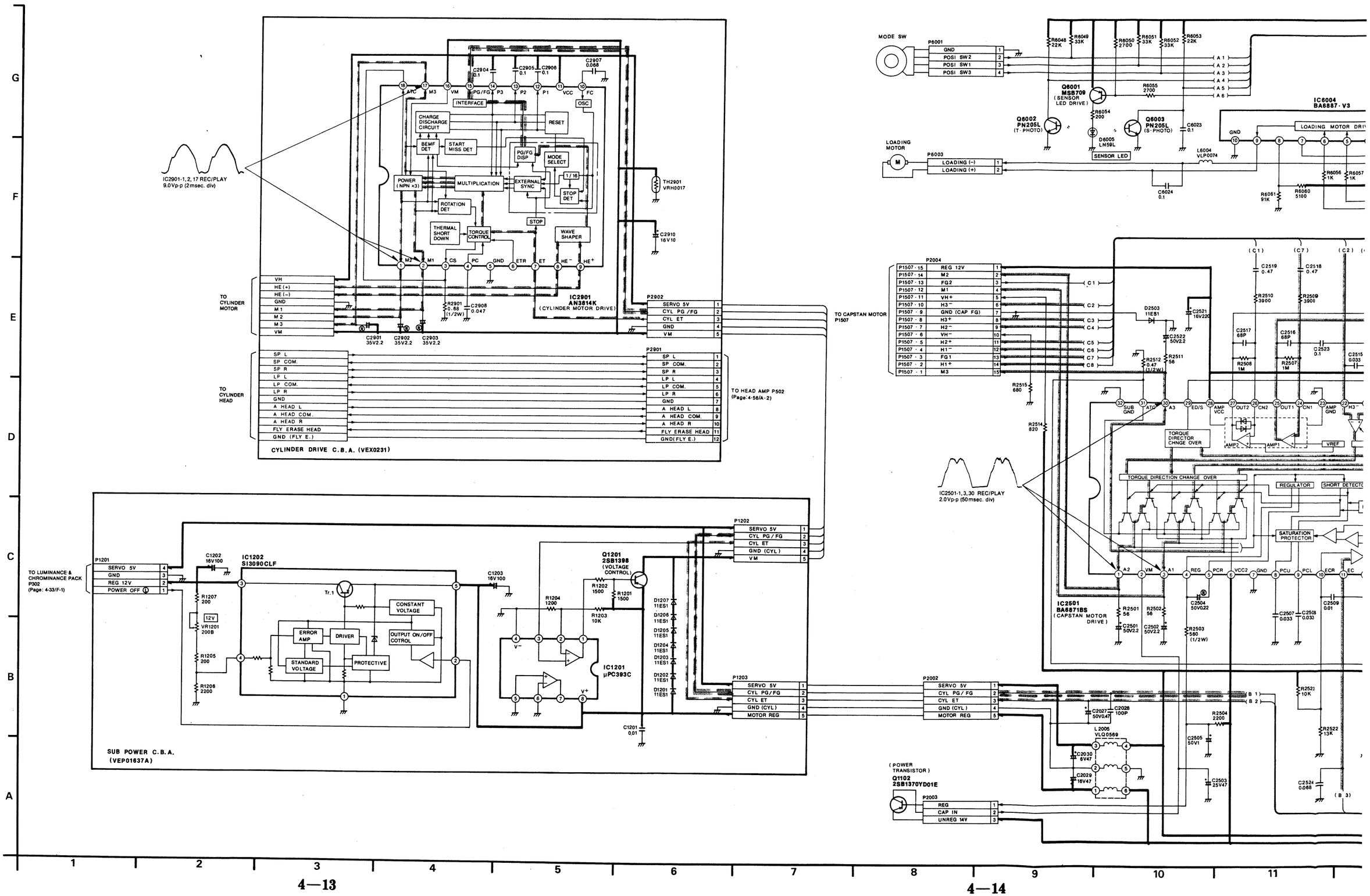
REF. NO.	IC1201										IC1202									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	13.2	1.4	2.3	0	0	0	0	13.2			0	2.9	11.6	9.1	13.2					
PLAY	13.2	1.4	2.3	0	0	0	0	13.2			0	2.9	11.6	9.1	13.2					
REC	13.2	1.4	2.3	0	0	0	0	13.2			0	2.9	11.6	9.1	13.2					
F.F	13.2	1.4	2.3	0	0	0	0	13.2			0	2.9	11.6	9.1	13.2					
REW	13.2	1.4	2.3	0	0	0	0	13.2			0	2.9	11.6	9.1	13.2					
REF. NO.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.5	4.5	0.5	13.8	0	14.4	−0.1	4.6	2.0	2.9	1.4	−0.1	−0.1	5.1	1.4	−0.1	2.3	2.3	2.3	2.3
PLAY	1.5	4.5	1.5	13.0	1.8	14.3	−0.1	0.6	0.6	2.9	2.6	0.4	0	5.1	1.4	−0.1	2.3	2.3	2.3	2.3
REC	1.6	4.5	1.6	13.0	1.9	14.2	−0.1	0.6	0.6	2.9	2.6	0.4	0	5.1	1.4	−0.1	2.3	2.3	2.3	2.3
F.F	6.8	14.1	6.9	5.7	12.3	14.2	−0.1	0.6	0.7	2.9	2.4	0.4	0.1	5.1	1.4	−0.1	2.3	2.3	2.3	2.3
REW	6.9	14.2	6.9	7.0	12.4	14.3	−0.1	0.6	0.6	2.9	2.5	0.4	0	5.1	1.4	−0.1	2.3	2.3	2.3	2.3
REF. NO.	IC2501																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
STOP	2.3	2.3	0	6.3	6.2	6.3	6.2	12.3	2.0	0.5	−0.1	−0.1								
PLAY	2.3	2.3	0	6.3	6.2	6.3	6.3	12.3	0	1.6	0	−0.1								
REC	2.3	2.3	0	6.3	6.2	6.3	6.3	12.3	0	1.6	0	−0.1								
F.F	2.3	2.3	0	6.3	6.2	6.3	6.3	12.3	0	6.8	0.1	−0.1								
REW	2.3	2.3	0	6.3	6.2	6.3	6.3	12.3	5.0	6.5	0	−0.1								
REF. NO.	IC2901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	13.1	13.1	0.1	0.6	0	2.5	2.4	2.6	2.5	2.6	4.9	3.7	3.6	3.7	1.3	13.8	13.3	0.1		
PLAY	13.8	12.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.4	13.6	13.7	0.2		
REC	13.7	13.7	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.8	3.7	3.7	1.5	13.6	13.7	0.2		
F.F	13.8	13.8	0.1	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.8	3.7	3.7	1.5	13.5	13.7	0.1		
REW	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2		
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	0	0	0	0	0	5.0	4.9	0	4.9	0	0	0	0	0	0	4.9	5.0	0	0.1
PLAY	0	0	0	0	4.9	0	5.0	4.9	0	4.9	0	0	0	0	0	0	4.9	0	4.9	0.1
REC	4.9	0	0	0	0	0	5.0	4.9	0	4.9	0	0	5.0	5.0	0	4.9	4.9	0	4.9	0.1
F.F	5.0	0	0	0	0	0	5.0	0	0	0	0	0	0	0	0	0	4.9	5.0	0	0.1
REW	5.1	0	0	0	0	0	5.0	0	0	0	0	0	0	0	0	0	4.9	5.0	0	0.1
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	5.0	0	0	0	0	5.0	0	0	5.0	5.0	5.0	5.0	5.0	2.6	2.6	4.5
PLAY	0	0	0	0	5.0	0	0	0	0	5.0	0	0	5.0	5.0	5.0	5.0	5.0	–	–	4.5
REC	0	0	0	0	5.0	0	0	0	0	0	4.9	0	5.0	5.0	5.0	5.0	5.0	–	–	4.5
F.F	0	0	0	0	5.0	0	0	0	0	5.0	0	0	5.0	5.0	5.0	5.0	5.0	–	–	4.5
REW	0	0	0	0	5.0	0	0	0	5.0	5.0	0	0	5.0	5.0	5.0	5.0	5.0	–	–	4.5
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	0	0	0	0	0	0	0	0	4.7	4.7	4.5	4.9	4.9	4.9	2.0	0	5.0	3.8
PLAY	0	0	0	0	0	0	0	0	0	2.5	4.7	4.7	4.5	4.9	4.9	4.9	0	5.0	0	3.0
REC	0	0	4.9	5.0	4.9	0	0	4.9	0	0	4.7	4.7	4.5	4.9	4.9	4.9	0	5.0	5.0	2.5
F.F	0	0	0	0	0	0	0	0	0	0	4.7	4.7	4.5	4.9	4.9	4.9	0	5.0	5.0	3.8
REW	0	0	0	0	0	0	0	0	0	0	4.7	4.7	4.5	4.9	4.9	4.9	5.0	5.0	5.0	3.8
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	2.5	0	0	1.9	0	2.4	0	3.4	5.0	0.1	2.5	2.5	1.1	2.5	0	2.5	2.5	2.4	2.6
PLAY	0	2.5	2.5	0	4.1	0	2.4	0	3.4	5.0	3.9	2.4	2.5	1.1	2.5	0	2.5	2.5	2.5	2.5
REC	0	2.5	2.5	0	4.7	0	2.4	0	3.4	5.0	4.5	2.4	2.5	1.1	2.5	0	2.5	2.5	2.3	2.6
F.F	0	2.5	0	0	2.4	0	2.4	0	3.4	2.3	2.3	2.4	2.5	1.1	2.5	0	2.5	2.5	2.7	2.3
REW	0	2.5	0	0	2.5	0	2.4	0	3.4	2.2	2.3	2.4	2.5	1.1	2.5	0	2.5	2.5	2.7	2.3
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	5.0	0	0	0	2.5	2.5	0	0	2.5	5.0	1.4	4.7	5.0	5.0	5.0	5.0	5.0	5.1	0	2.5
PLAY	4.9	0	0	0	2.5	2.5	0	0	2.5	5.0	2.6	2.5	5.0	5.0	5.0	5.0	5.0	5.1	0	2.5
REC	4.9	2.4	2.9	0	2.5	2.4	0	0	2.5	5.0	2.6	2.5	5.0	5.0	5.0	4.9	5.0	5.1	0	2.5
F.F	4.9	0	0	0	2.5	2.5	0	0	2.5	5.0	2.4	2.5	5.0	5.0	5.0	5.0	5.0	5.1	0	2.5
REW	4.9	0	0	0	2.5	2.5	0	0	2.4	5.0	2.6	2.5	5.0	5.0	5.0	5.0	5.0	5.1	0	2.5
REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	2.5	0	5.0	0	0.3	5.1	4.8	5.0	0	5.0	0	0.6	0.6	5.0	5.1	0	5.1	5.0	0	0
PLAY	2.5	3.8	5.0	0	3.2	5.1	4.8	0.1	0	5.0	0	0.4	0.4	5.0	0	0	5.0	5.0	0	0
REC	2.5	3.8	5.0	0	0.4	5.1	4.8	0	0	5.0	0	0	0.6	5.0	0	0	5.0	5.0	0	0
F.F	2.5	3.8	5.0	0	1.8	5.1	4.8	0.1	0	5.0	0	2.3	2.3	5.0	0	5.0	5.1	5.0	0	0
REW	2.5	3.8	5.0	0	2.6	5.1	4.8	0.1	0	5.0	0	1.5	1.5	5.0	0	5.1	5.1	5.0	0	0

REF. NO.	IC6001																			
MODE	121	122	123	124																
STOP	0	0	0	5.0																
PLAY	0	0	0	5.0																
REC	0	0	0	5.0																
F.F	0	0	0	5.0																
REW	0	0	0	5.0																
REF. NO.	IC6002										IC6003									
MODE	1	2	3	4							1	2	3	4						
STOP	1.1	0	5.0	0							2.3	1.1	0.1	0						
PLAY	1.1	0	5.0	0							2.3	1.1	4.2	0						
REC	1.1	0	5.0	0							2.3	1.1	4.6	0						
F.F	1.1	0	2.3	0							2.3	1.1	2.3	0						
REW	1.1	0	2.3	0							2.3	1.1	2.3	0						
REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10										
STOP	0.2	14.5	14.5	0	0	0	7.3	9.4	0.2	−0.1										
PLAY	0.4	14.3	14.3	0	0	0	7.2	9.2	0.4	−0.1										
REC	1.0	14.2	14.2	0	0	0	7.3	9.2	1.2	−0.1										
F.F	1.3	14.2	14.2	0	0	0	14.2	9.2	1.4	−0.1										
REW	0.2	14.3	14.3	0	0	0	14.3	9.2	0.2	−0.1										

SYSTEM CONTROL & SERVO TR.s DC VOLTAGE CHART (S-VHS: SP MODE)

REF. NO.	Q1201			Q6001			Q6002			Q6003			Q6004					
MODE	E	C	B	E	C	B	E	C		E	C		E	C	B			
STOP	13.2	8.0	13.2	5.1	−0.5	5.0	0	5.0		0	5.0		5.1	5.1	5.7			
PLAY	13.2	8.0	13.2	5.1	5.0	4.3	0	5.0		0	5.0		5.1	5.1	5.7			
REC	13.2	8.0	13.2	5.1	5.0	4.3	0	5.0		0	5.0		5.1	5.1	5.7			
F.F	13.2	8.0	13.2	5.1	5.0	4.3	0	5.0		0	5.0		5.1	5.1	5.7			
REW	13.2	8.0	13.2	5.1	5.0	4.3	0	5.0		0	5.0		5.1	5.1	5.7			
REF. NO.	QR2001			QR2002			QR2003			QR2004			QR6002			QR6003		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	4.9	0	0	4.9	5.1	4.3	5.0	5.0	0.4	4.8	0	0	3.0	0	3.0	0
PLAY	0	0	4.9	0	0	4.9	5.1	4.8	5.0	5.0	0.4	4.8	0	0	3.0	0	3.0	0
REC	0	0	4.9	0	0	4.9	5.1	4.8	5.0	5.0	0.4	4.8	0	0	3.0	0	3.0	0
F.F	0	0	0	0	1.2	0	5.1	4.8	5.0	5.0	0.4	4.8	0	0	3.0	0	3.0	0
REW	0	0	0	0	1.2	0	5.1	4.8	5.0	5.0	0.4	4.8	0	0	3.0	0	3.0	0
REF. NO.	QR6006			QR6007														
MODE	E	C	B	1	2	3	4	5										
STOP	0	0	8.7	0	0	4.9	−0.1	4.9										
PLAY	0	0	8.7	0	0	4.9	−0.1	4.9										
REC	0	0	8.7	0	0	4.9	−0.1	4.9										
F.F	0	0	8.7	14.3	7.7	0	−0.1	0										
REW	0	0	8.7	14.3	7.7	0	−0.1	0										

4-5. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM



CAPSTAN SERVO SPEED LOOP

CAPSTAN SERVO PHASE LOOP

A · LINE

B · LINE

SAFETY TAB

S6001 VES0709

Q6001 MSB709 (SENSOR LED DRIVE)

Q6002 PN205L (T · PHOTO)

Q6003 PN205L (S · PHOTO)

D6005 LN59L

SENSOR LED

IC6004 BA6887 · V3

LOADING MOTOR DRIVE

L6004 VLP0074

IC6001 MN6755486H4H

QR6007 XN1211 (FF/REW OFF) (V.CHANGE ON)

IC2501 BA6871BS (CAPSTAN MOTOR DRIVE)

TORQUE DIRECTOR CHNGE OVER

TORQUE DIRECTION CHANGE OVER

REGULATOR

SHORT DETECTOR

TORQUE DIRECTION DETECTOR

ISO

SATURATION PROTECTOR

RIPPLE CANCELLER

HOLE AMP

AGC

VREF

P SIGNAL COMPOSITE

SERVICE MODE

ANC

TL SERV

TL TEST

IC6001-89 PLAY 4.0Vp-p (10msec. div.)

IC6001-82, 83 REC 5.4Vp-p (10msec. div.)

IC6001-74 REC 4.8Vp-p (10msec. div.)

IC6001-72, 73 REC 1.1Vp-p (1msec. div.)

IC6001-70, 71 REC 7.0Vp-p (1sec. div.)

IC6001-67 REC 2.0Vp-p (10msec. div.)

IC6001-38 REC 4.0Vp-p (50nsec. div.)
IC6001-39 REC 4.6Vp-p (50nsec. div.)

IC6001-50 PLAY 5.0Vp-p (10msec. div.)

IC6001-51, 52 REC 5.0Vp-p (10msec. div.)

IC6001-53 REC 5.0Vp-p (5msec. div.)

IC6001-61 STILL 5.0Vp-p (10msec. div.)

IC6001-62, 63 REC 5.0Vp-p (10msec. div.)

9 10 11 12 13 14 15 16 17 18 19 20

4—15

4—16

CAPSTAN SERVO SPEED LOOP — CAPSTAN SERVO PHASE LOOP — CYLINDER SERVO SPEED LOOP — CYLINDER SERVO PHASE LOOP

IC6001 MN6755486H4H

SERVICE MODE

IC6001-89 PLAY 4.0Vp-p (10msec. div.)

IC6001-82, 83 REC 5.4Vp-p (10msec. div.)

IC6001-74 REC 4.8Vp-p (10msec. div.)

IC6001-72, 73 REC 1.1Vp-p (1msec. div.)

IC6001-70, 71 REC 7.0Vp-p (1sec. div.)

IC6001-67 REC 2.0Vp-p (10msec. div.)

IC6001-38 REC 4.0Vp-p (50nsec. div.)
IC6001-39 REC 4.6Vp-p (50nsec. div.)

IC6001-50 PLAY 5.0Vp-p (10msec. div.)

IC6001-51, 52 REC 5.0Vp-p (10msec. div.)

IC6001-53 REC 5.0Vp-p (5msec. div.)

IC6001-61 STILL 5.0Vp-p (10msec. div.)

IC6001-62, 63 REC 5.0Vp-p (10msec. div.)

TO AUDIO SECTION (Page: 4-18/D-10)

TO RF SECTION (Page: 4-9/E-8)

TO INPUT/OUTPUT PACK P3901 (Page: 4-50/B-14)

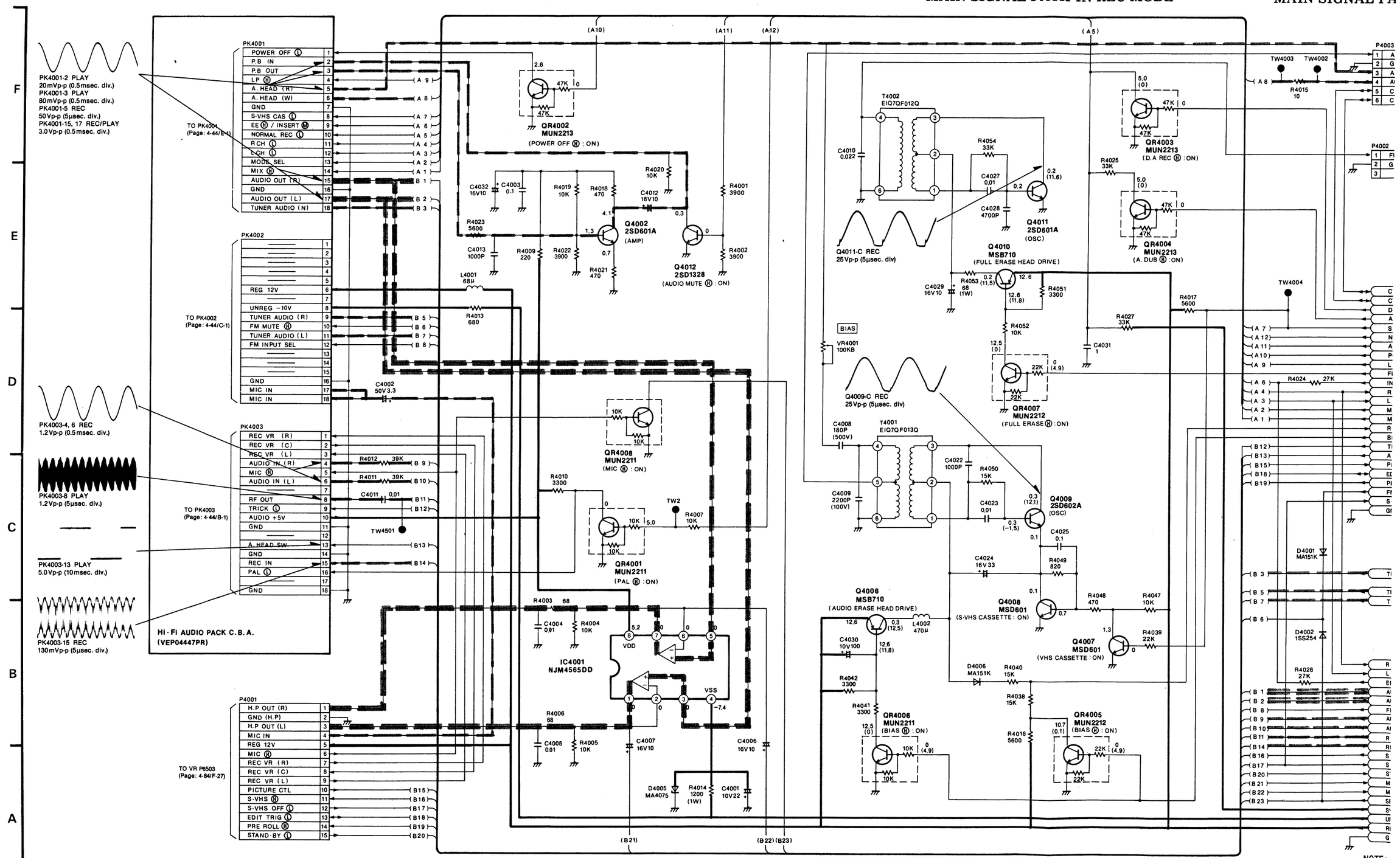
TO LUMINANCE/ CHROMINANCE SECTION (Page: 4-5/B-1)

B - LINE

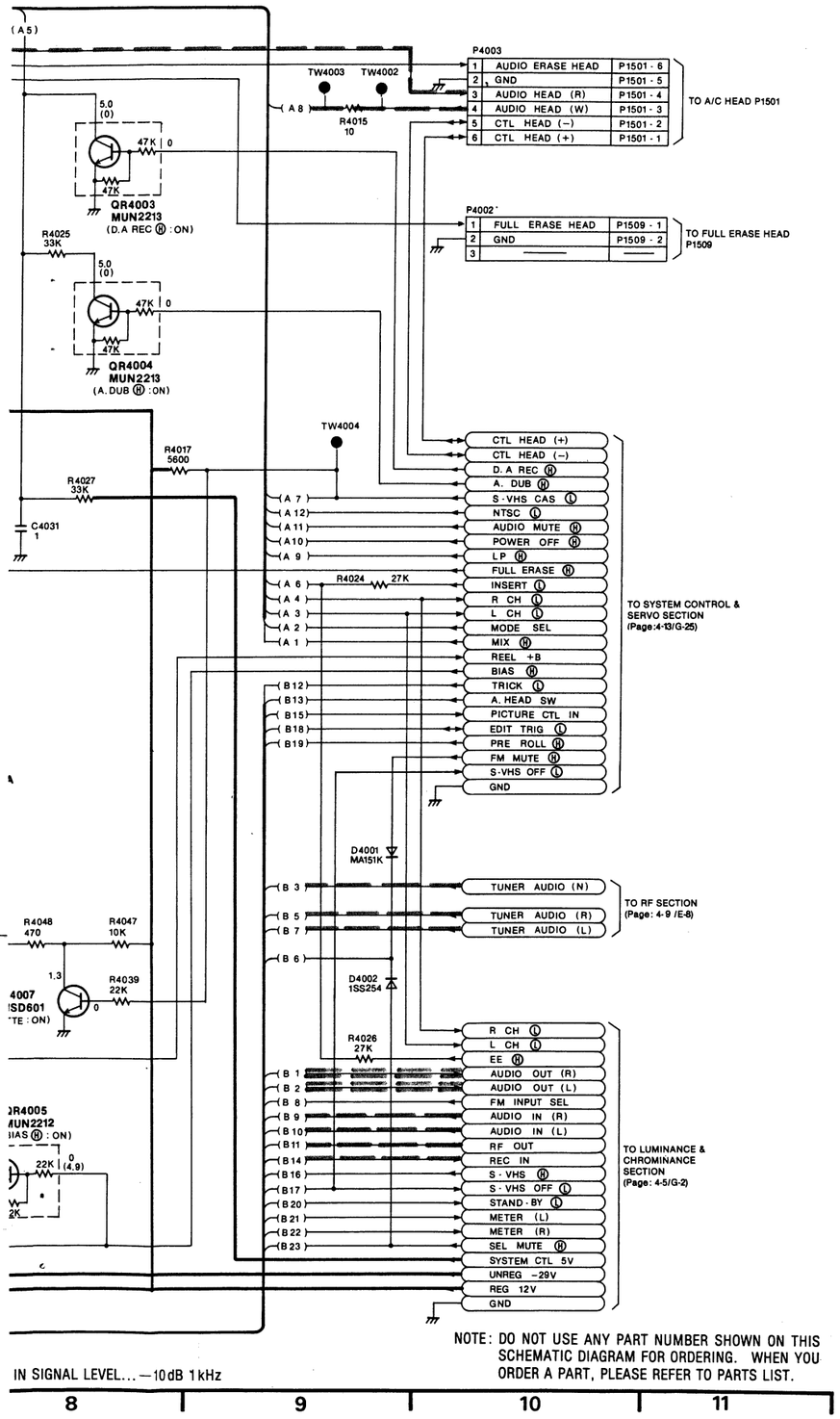
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-6. AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

— — — MAIN SIGNAL PATH IN REC MODE — — — MAIN SIGNAL PA



N REC MODE — — — MAIN SIGNAL PATH IN PLAYBACK MODE



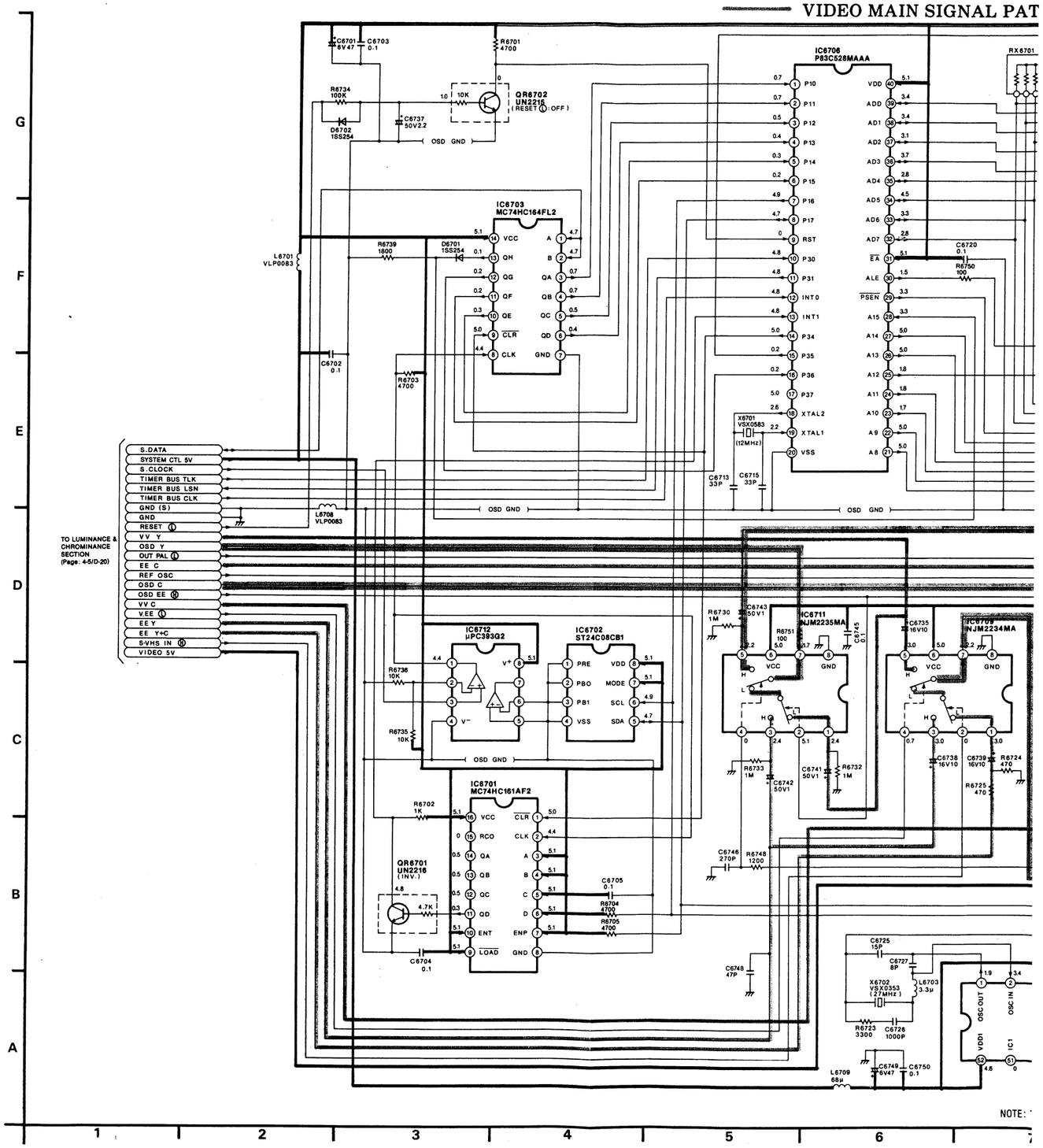
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IN SIGNAL LEVEL... —10dB 1kHz

8 9 10 11

4-7. OSD SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PAT



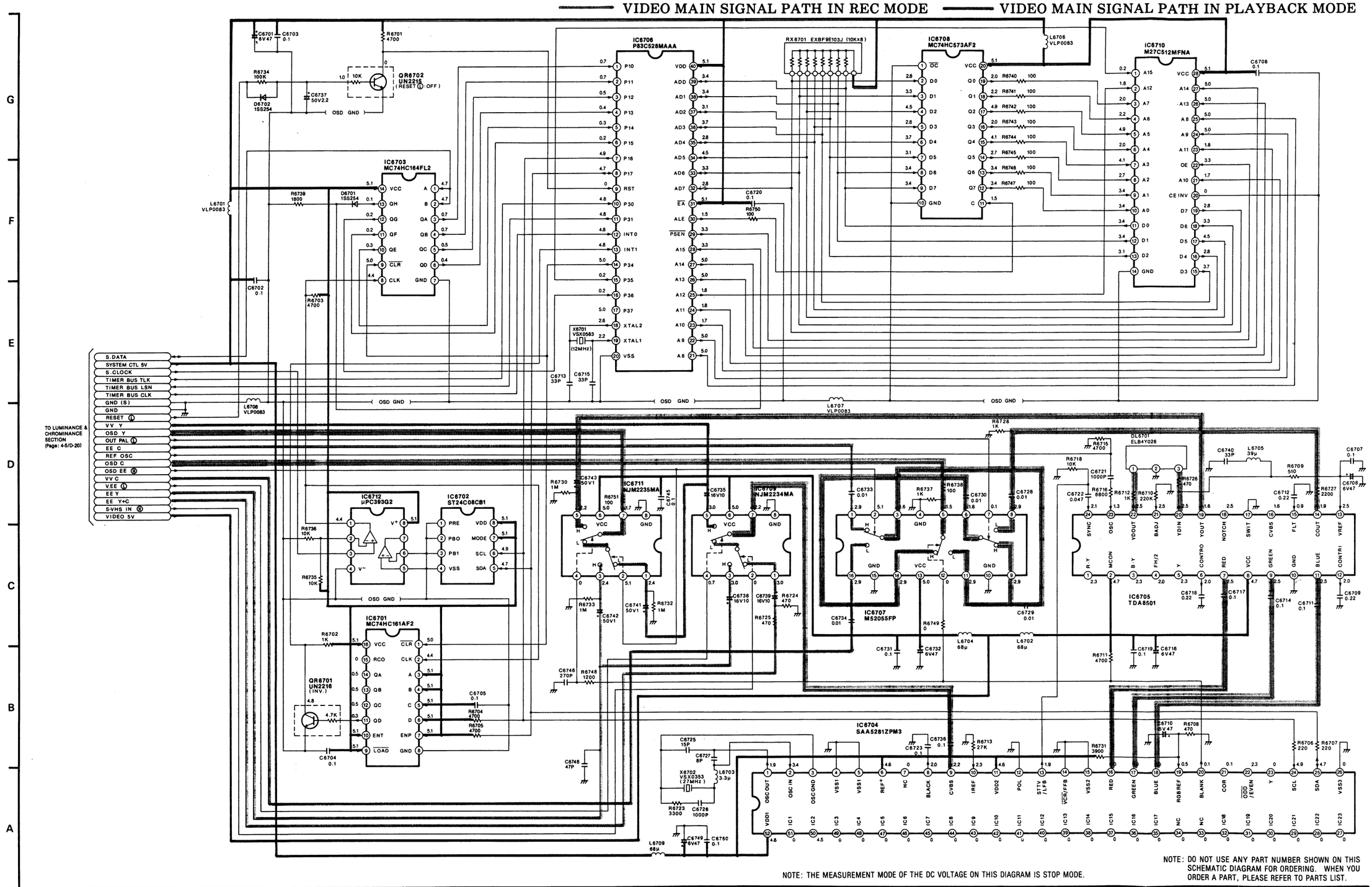
NOTE:

D C B A

1 2 3 4 5 6 7

4-7. OSD SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE — VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

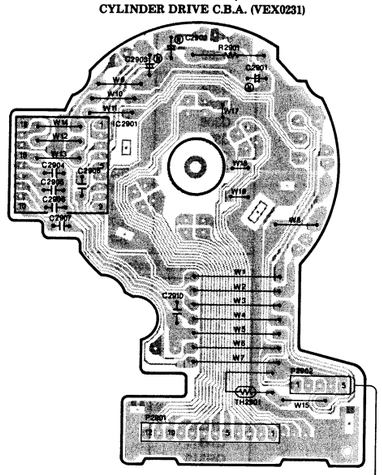


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

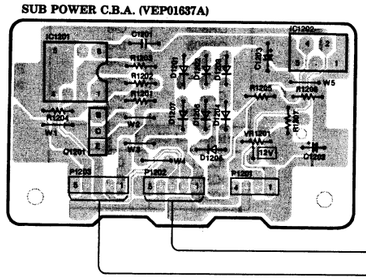
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-8. MAIN C.B.A. (VEP03B73B)

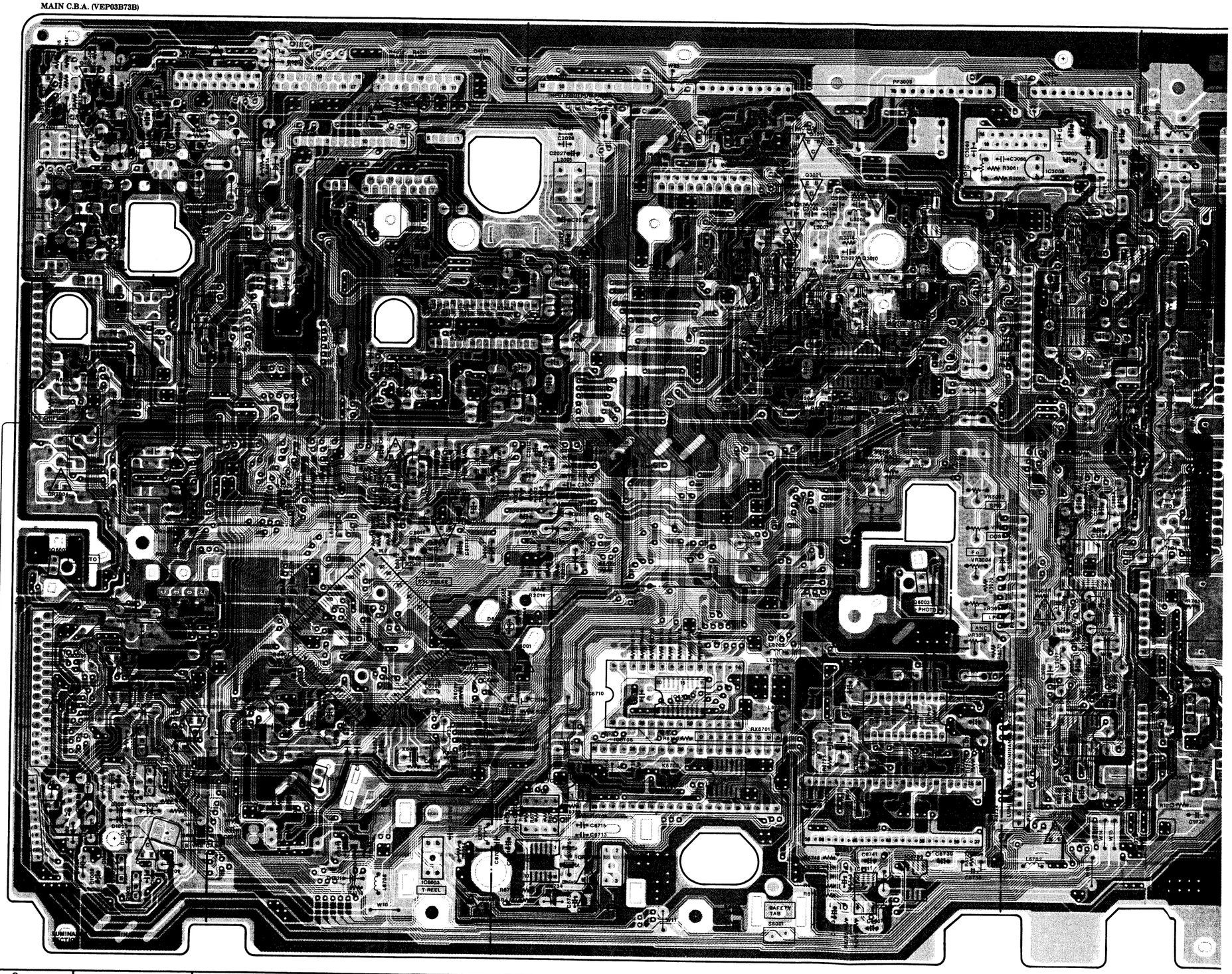
CYLINDER DRIVE C.B.A. (VEX0231)

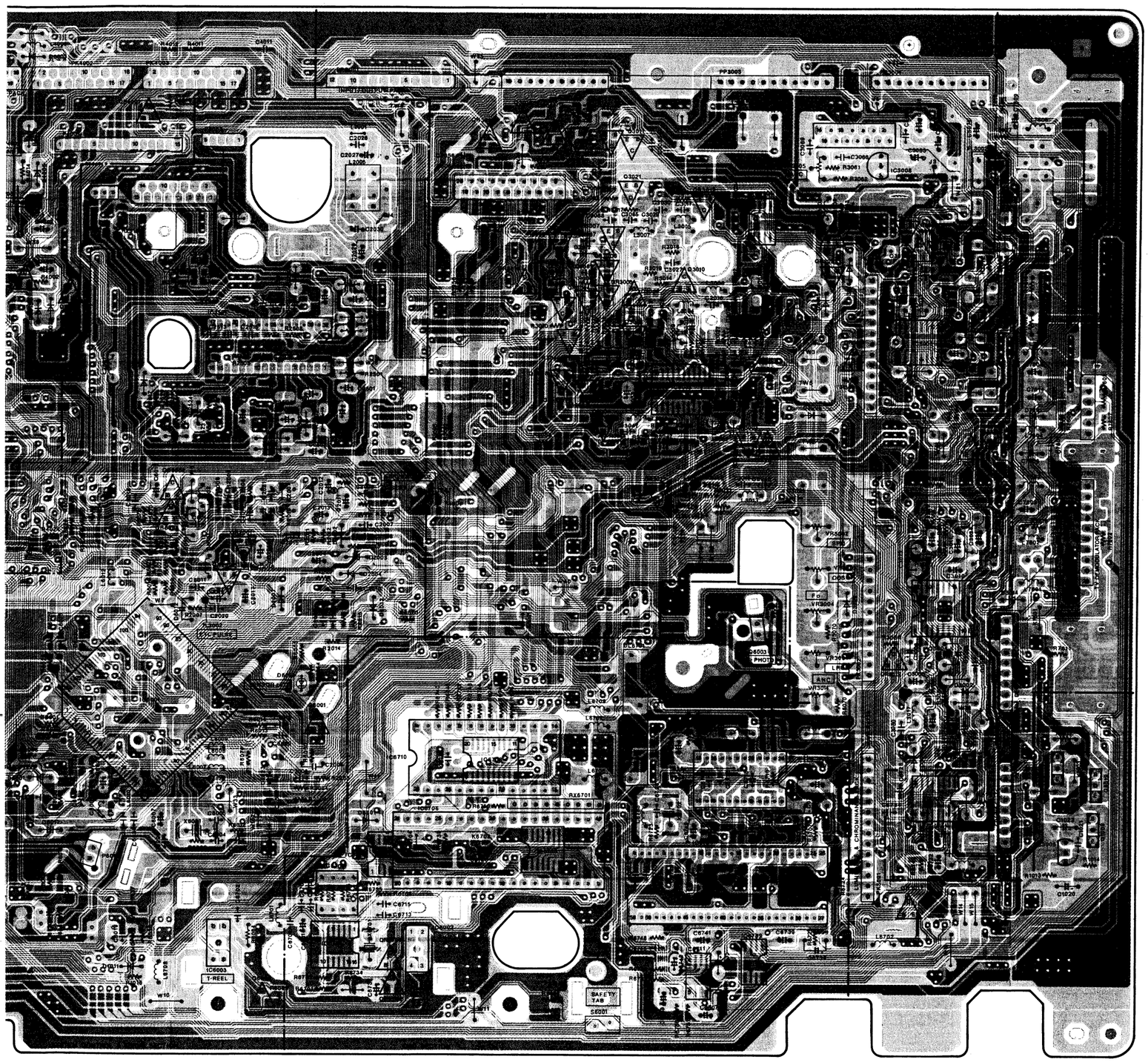


SUB POWER C.B.A. (VEP01637A)



MAIN C.B.A. (VEP03B73B)





MAIN C.B.A. ADDRESS INFORMATION

SYSTEM CONTROL & SERVO SECTION	
Transistor	
Q1201	D-1
Q6001	C-7
Q6002	D-3
Q6003	D-10
Q6004	A-7
Transistor & Resistor	
QR2001	D-7
QR2002	D-7
QR2003	D-4
QR2004	D-3
QR6002	E-6
QR6003	E-6
QR6006	H-5
QR6007	E-4
Integrated Circuit	
IC1201	D-1
IC1202	D-2
IC2501	F-7
IC2901	G-1
IC6001	C-6
IC6002	B-8
IC6003	A-6
IC6004	F-3
Test Point	
TL2002	D-6
TLSERV	E-8
TLTEST	E-8
TW9	H-8
TW2031	G-5
TW2032	G-4
Adjustment	
VR1201	D-2
VR2001	E-3
Connector	
P1201	D-2
P1202	D-2
P1203	D-1
P2002	G-6
P2003	G-6
P2004	G-6
P2901	F-2
P2902	F-2
P6001	D-4
P6002	F-4
P6003	B-6

ADDRESS INFORMATION

LUMINANCE & CHROMINANCE SECTION	
Transistor	
Q1002	A-4
Q1003	A-4
Q1004	B-4
Q1005	B-4
Q1006	C-4
Q1007	C-4
Q1008	C-13
Q1009	B-13
Q1010	B-3
Q1011	A-4
Q3001	G-11
Q3002	E-11
Q3003	F-10
Q3004	E-9
Q3005	F-10
Q3006	F-9
Q3007	F-9
Q3008	F-9
Q3009	F-10
Q3010	F-10
Q3011	G-10
Q3012	G-9
Q3013	H-9
Q3014	G-9
Q3015	G-9
Q3016	G-12
Q3017	G-12
Q3018	G-12
Q3019	C-13
Q3021	G-10
Q3022	E-12
Transistor & Resistor	
QR1001	B-4
QR1002	B-4
QR1003	C-4
QR1004	C-4
QR3001	G-11
QR3003	E-10
QR3004	F-9
QR3006	G-9
QR3007	G-9
QR3008	F-9
QR3009	F-9
QR3011	G-8
QR3012	G-10
QR3013	F-11
QR3015	G-9
QR3016	F-9
QR3017	B-12
QR3019	D-12
QR3021	F-11
QR3023	E-10
Integrated Circuit	
IC3001	D-12
IC3003	F-10
IC3004	G-10
IC3005	B-13
IC3006	F-12
IC3007	H-11
IC3008	G-11
Test Point	
TW1	C-11
TW3	F-11
TW5	F-11
TW7	H-11
Adjustment	
VR3001	D-11
VR3002	E-11
VR3003	D-11
VR3004	D-11
VR3005	G-11
VR3014	C-11
Connector	
P1001	B-3
P3001	G-8
P3003	B-3
PP3001	H-7
PP3002	H-9
PP3003	H-10
PP3004	H-11
PK3001	B-11
PK3002	D-11
PK3003	F-11

ADDRESS INFORMATION

AUDIO SECTION	
Transistor	
Q4002	H-4
Q4006	H-4
Q4007	H-4
Q4008	G-4
Q4009	G-4
Q4010	G-4
Q4011	G-4
Q4012	F-5
Transistor & Resistor	
QR4001	H-6
QR4002	G-4
QR4003	F-5
QR4004	F-5
QR4005	H-3
QR4006	H-3
QR4007	G-4
QR4008	F-5
Integrated Circuit	
IC4001	E-4
Test Point	
TW2	E-11
TW4002	G-5
TW4003	G-5
TW4004	H-5
TW4501	H-10
Adjustment	
VR4001	G-3
Connector	
P4001	G-5
P4002	F-3
P4003	G-4
PK4001	H-4
PK4002	H-5
PK4003	H-6

ADDRESS INFORMATION

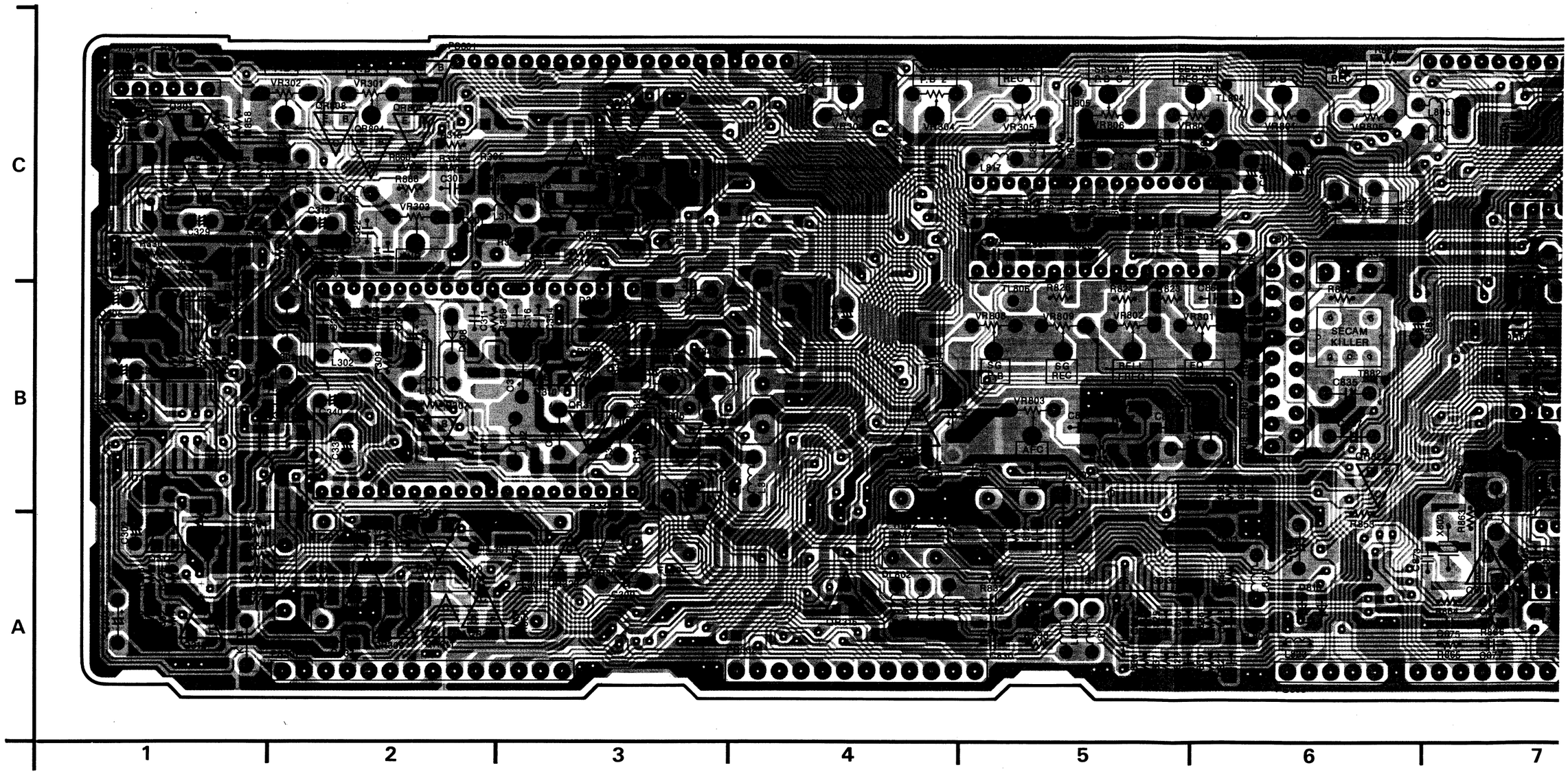
OSD SECTION	
Transistor & Resistor	
QR6701	A-8
QR6702	A-8
Integrated Circuit	
IC6701	A-7
IC6702	B-7
IC6703	B-9
IC6704	B-10
IC6705	C-10
IC6706	E-8
IC6707	C-12
IC6708	C-9
IC6709	A-10
IC6710	C-8
IC6711	A-10
IC6712	B-8

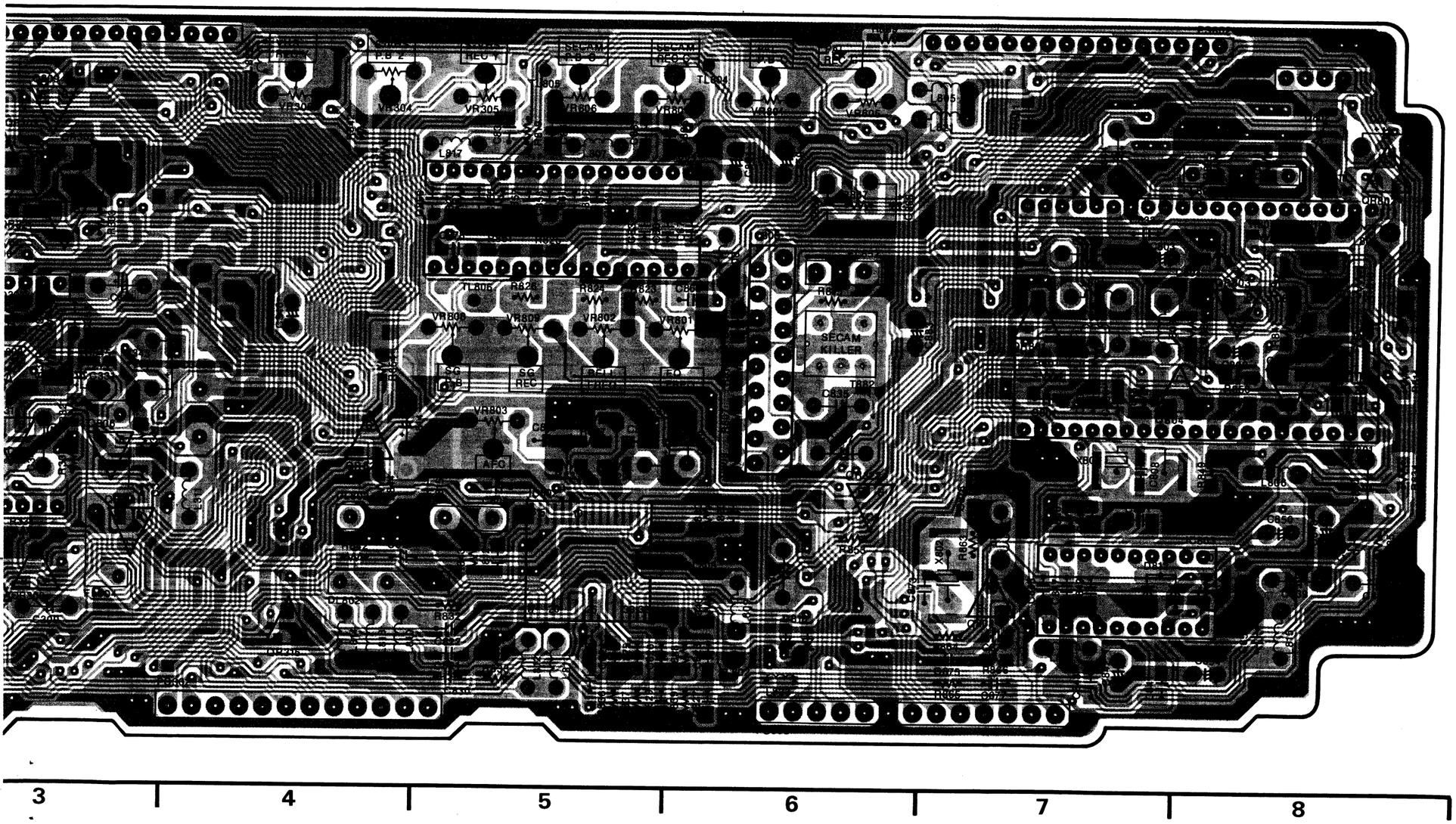
ADDRESS INFORMATION

RF SECTION	
Connector	
PK7301	C-12
PK7302	B-12

ADDRESS INFORMATION

4-9. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03B90A)





LUMINANCE & CHROMINANCE PACK C.B.A.

Transistor	
Q301	C-1
Q302	C-1
Q303	B-1
Q304	B-1
Q305	B-1
Q306	B-3
Q308	C-1
Q309	C-3
Q310	B-3
Q311	A-1
Q312	A-1
Q803	A-7
Q804	B-7

Transistor & Resistor	
QR301	C-3
QR302	C-3
QR303	C-3
QR304	C-2
QR305	B-2
QR306	B-3
QR308	A-3
QR309	A-2
QR310	A-2
QR311	A-2
QR312	A-2
QR313	A-2
QR314	B-3
QR315	A-4
QR316	C-3
QR320	A-3
QR321	C-3
QR322	B-6
QR323	B-4
QR801	B-7
QR802	C-8
QR803	B-8
QR804	C-2
QR805	B-8
QR806	C-2
QR808	C-2

Integrated Circuit	
IC301	C-2
IC302	C-1
IC303	B-2
IC304	B-1
IC801	B-8
IC802	B-5
IC803	B-8
IC804	C-5
IC805	C-6

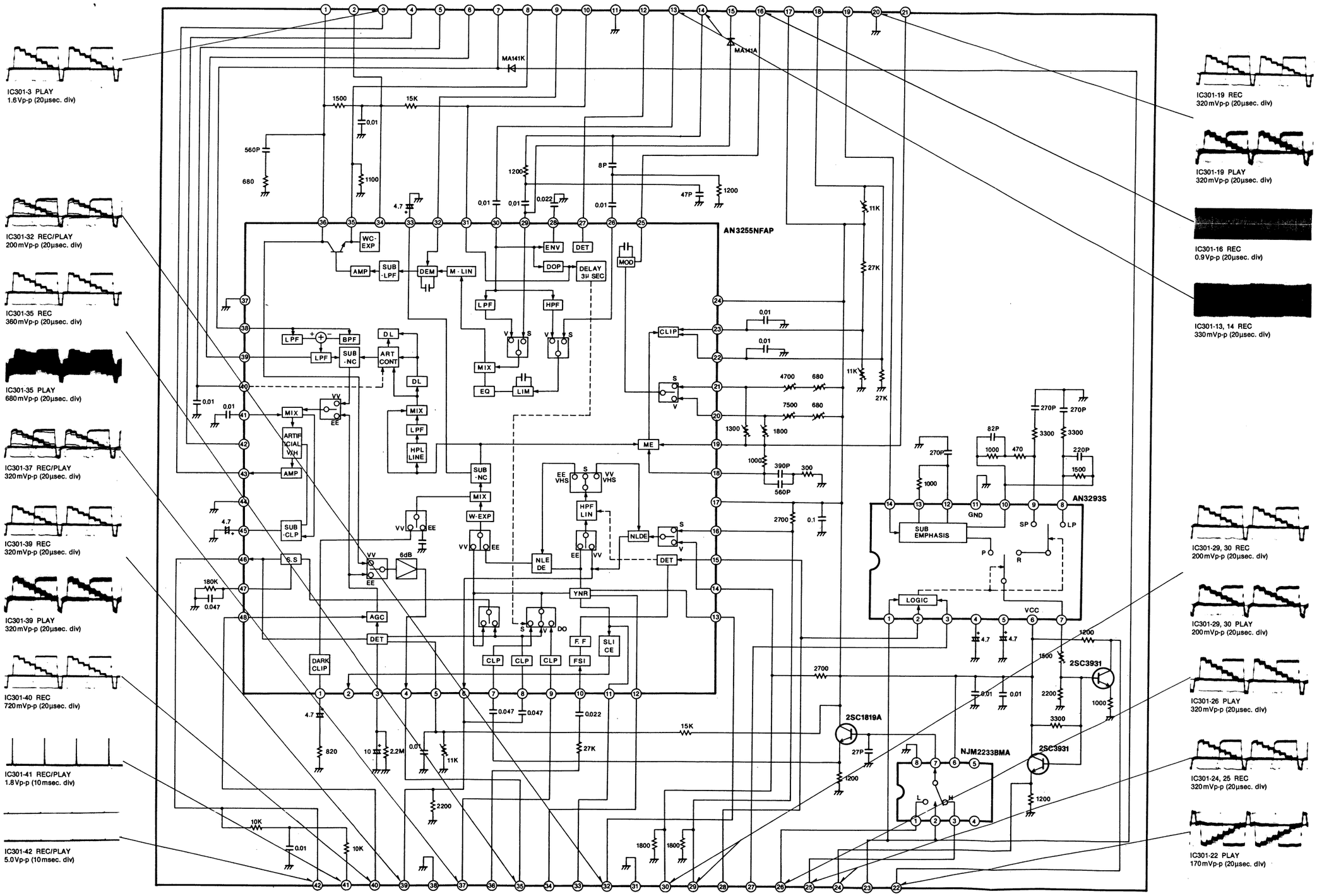
Test Point	
TL301	A-2
TL802	A-6
TL803	A-6
TL804	C-6
TL805	C-5
TL806	B-5

Adjustment	
VR301	C-2
VR302	C-2
VR303	C-2
VR304	C-4
VR305	C-5
VR306	C-4
VR801	B-6
VR802	B-5
VR803	B-5
VR804	C-6
VR805	C-6
VR806	C-5
VR807	C-6
VR808	B-5
VR809	B-5
T882	B-6

Connector	
P301	C-1
P302	C-8
PS301	A-2
PS302	A-4
PS303	A-6
PS801	C-2
PS802	C-8

ADDRESS INFORMATION

IC301 (VCR0390)



IC301-3 PLAY
1.6Vp-p (20μsec. div)

IC301-32 REC/PLAY
200mVp-p (20μsec. div)

IC301-35 REC
360mVp-p (20μsec. div)

IC301-35 PLAY
680mVp-p (20μsec. div)

IC301-37 REC/PLAY
320mVp-p (20μsec. div)

IC301-39 REC
320mVp-p (20μsec. div)

IC301-39 PLAY
320mVp-p (20μsec. div)

IC301-40 REC
720mVp-p (20μsec. div)

IC301-41 REC/PLAY
1.8Vp-p (10msec. div)

IC301-42 REC/PLAY
5.0Vp-p (10msec. div)

IC301-19 REC
320mVp-p (20μsec. div)

IC301-19 PLAY
320mVp-p (20μsec. div)

IC301-16 REC
0.9Vp-p (20μsec. div)

IC301-13, 14 REC
330mVp-p (20μsec. div)

IC301-29, 30 REC
200mVp-p (20μsec. div)

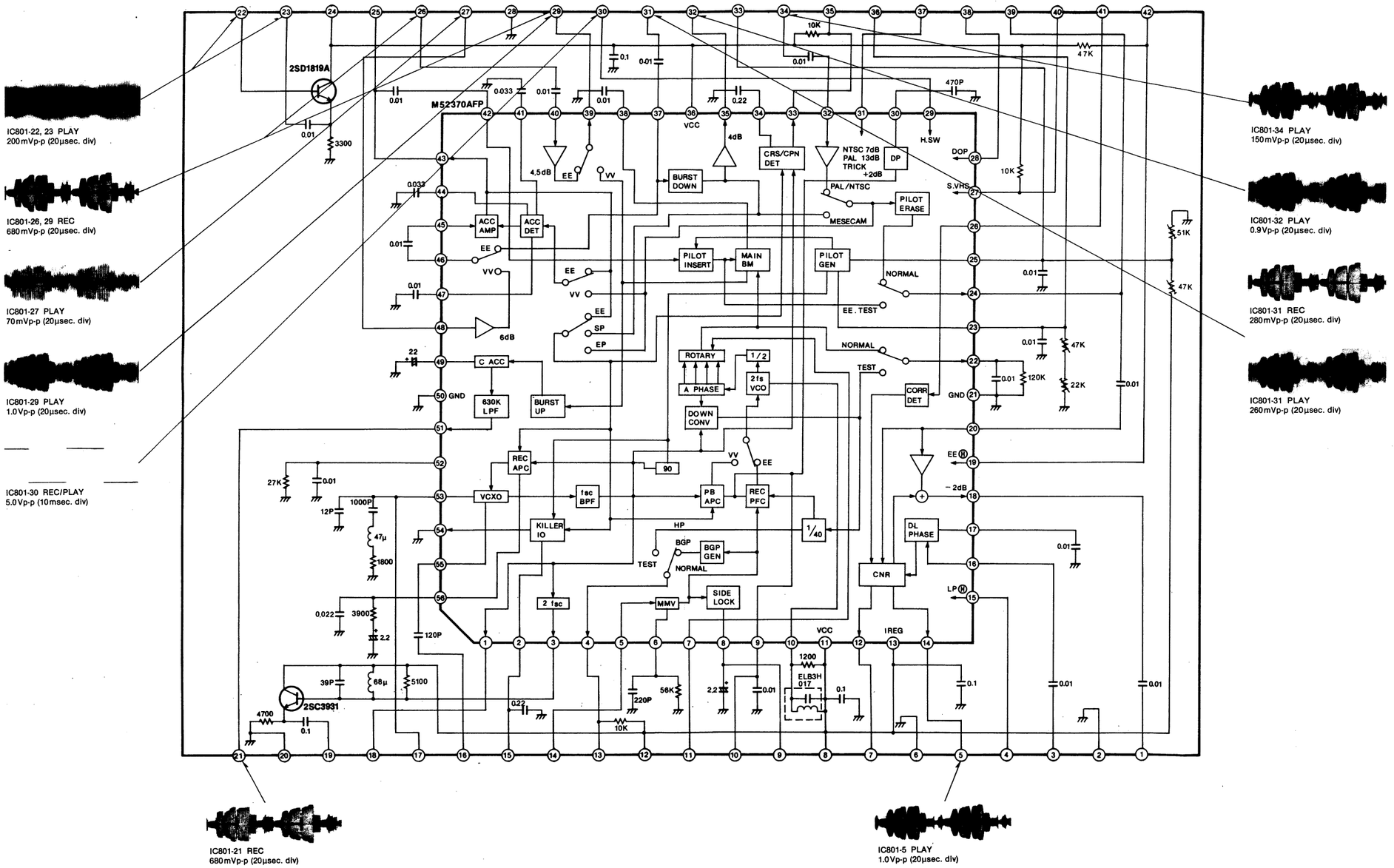
IC301-29, 30 PLAY
200mVp-p (20μsec. div)

IC301-26 PLAY
320mVp-p (20μsec. div)

IC301-24, 25 REC
320mVp-p (20μsec. div)

IC301-22 PLAY
170mVp-p (20μsec. div)

IC801 (VCR0383)



IC801-22, 23 PLAY
200mVp-p (20µsec. div)

IC801-26, 29 REC
680mVp-p (20µsec. div)

IC801-27 PLAY
70mVp-p (20µsec. div)

IC801-29 PLAY
1.0Vp-p (20µsec. div)

IC801-30 REC/PLAY
5.0Vp-p (10msec. div)

IC801-34 PLAY
150mVp-p (20µsec. div)

IC801-32 PLAY
0.9Vp-p (20µsec. div)

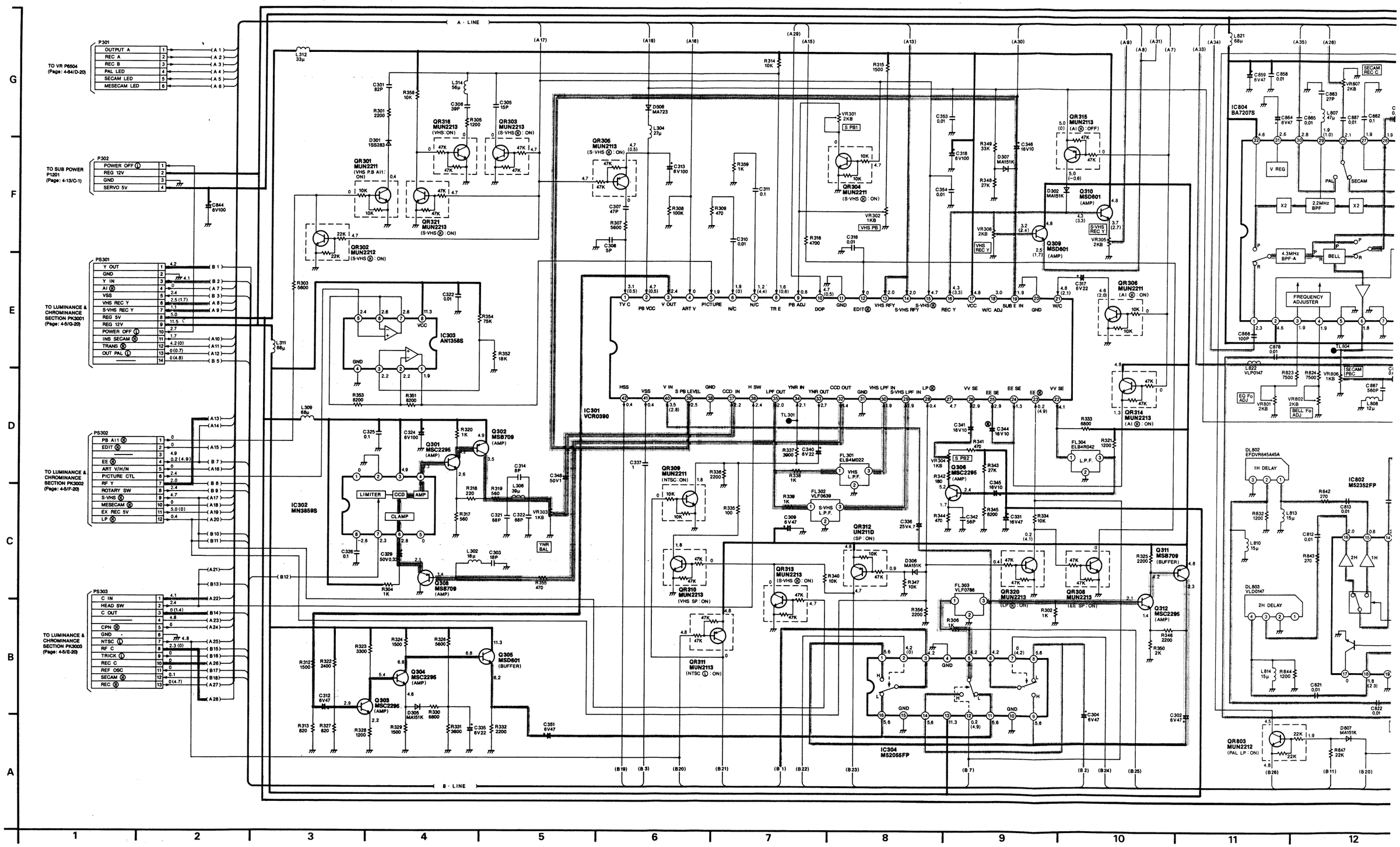
IC801-31 REC
280mVp-p (20µsec. div)

IC801-31 PLAY
260mVp-p (20µsec. div)

IC801-21 REC
680mVp-p (20µsec. div)

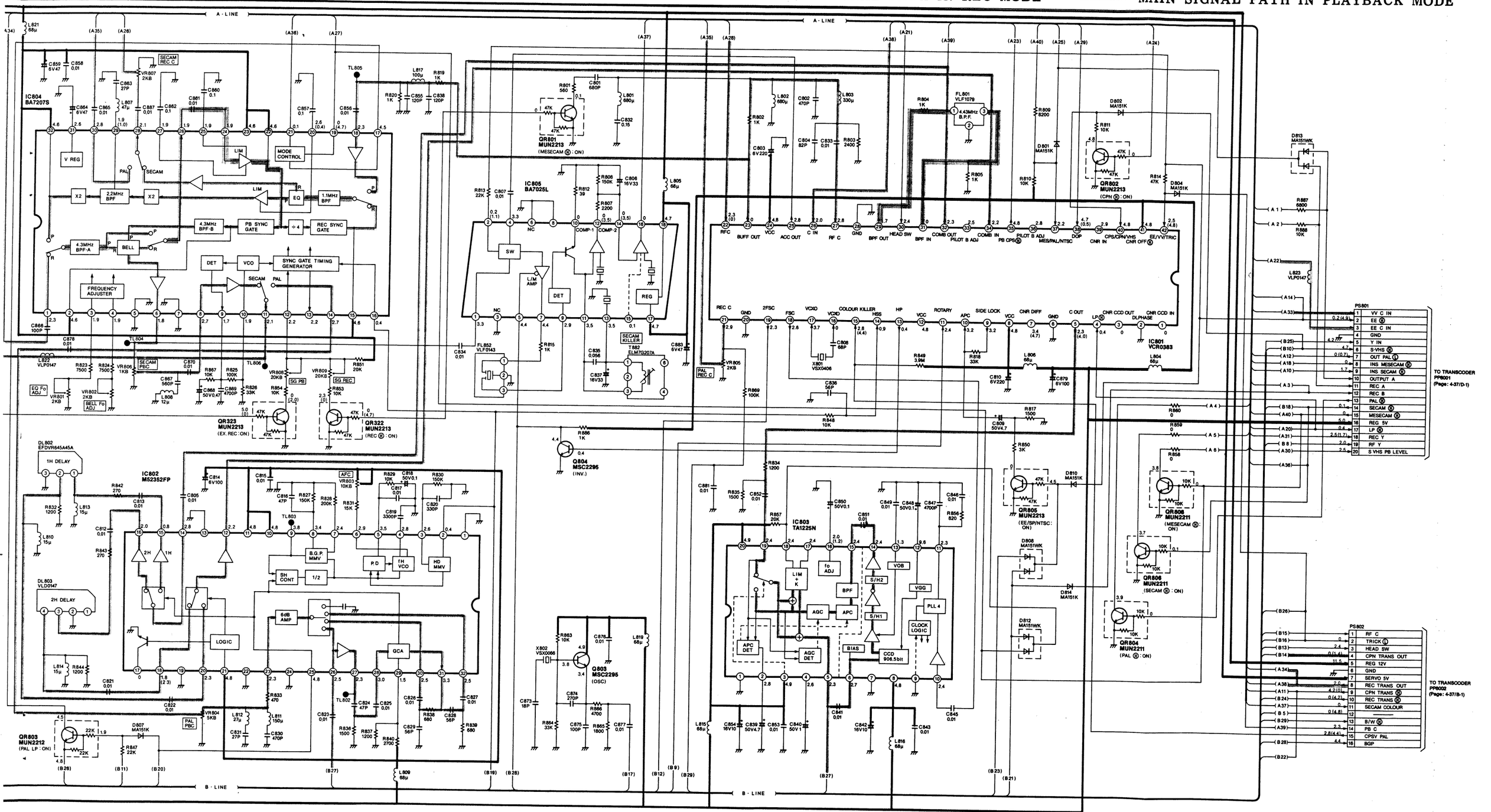
IC801-5 PLAY
1.0Vp-p (20µsec. div)

4-10. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM



MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

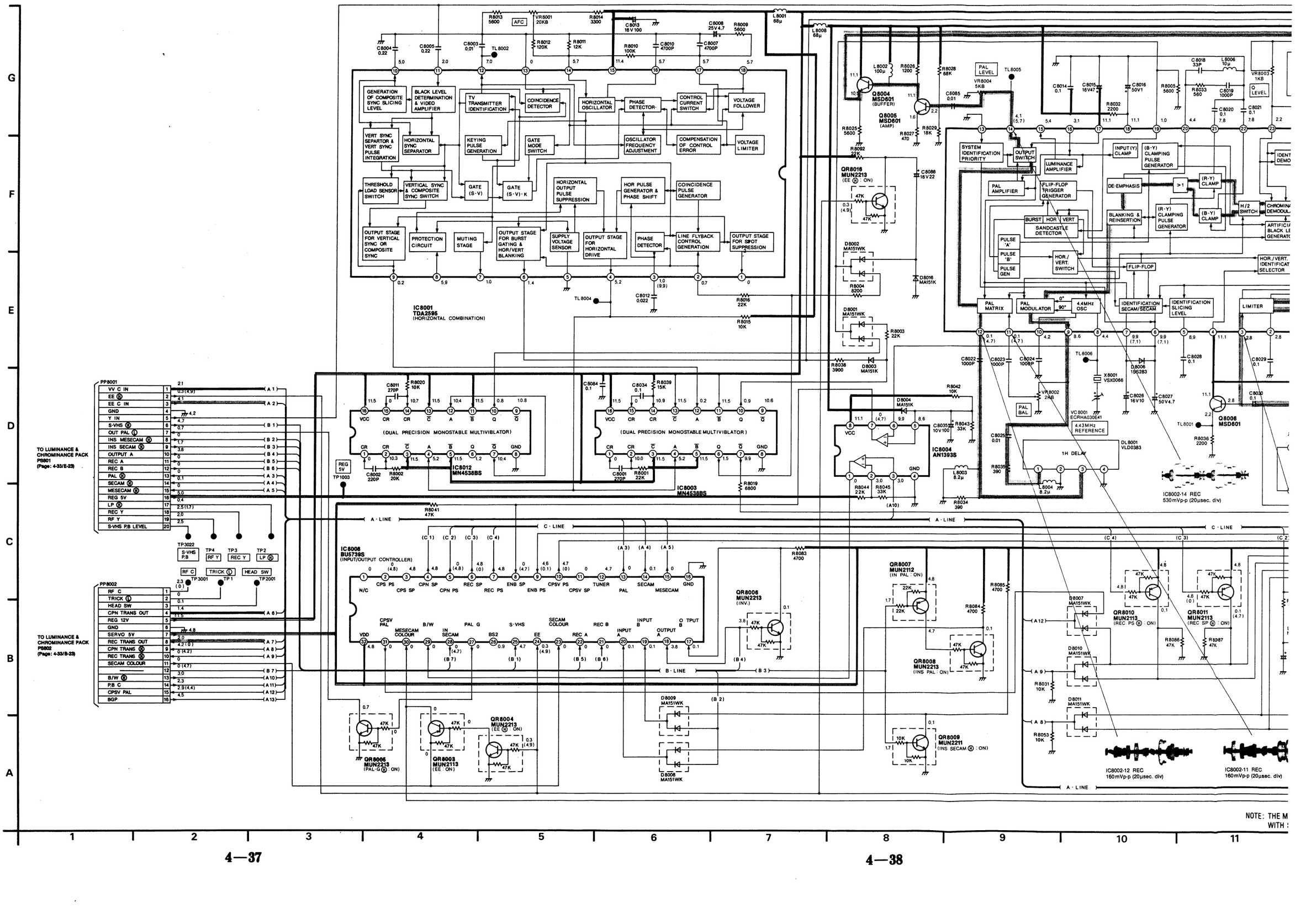


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-11. TRANSCODER SCHEMATIC DIAGRAM



MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

IC8002 TDA3592A (PAL/SECAM TRANSCODER)

IC8005 TDA4510 (PAL DECODER)

IC8006 TDA8505 (SECAM ENCODER)

Q8001 MSB709 (INV.)

Q8006 MSD601

IC8007 MN4013BS (DUAL D FLIP-FLOP)

IC8009 M52055FP

IC8010 NJM2234MA

IC8011 NJM2234MA

IC8013 BA7025L (SECAM DETECTOR)

QR8001 MUN2213 (CPSV PS Ⓗ : ON)

QR8002 MUN2113 (CPSV PS ON)

QR8010 MUN2113 (REC PS Ⓗ : ON)

QR8011 MUN2113 (REC SP Ⓗ : ON)

QR8012 MUN2112 (CPN PS Ⓗ : ON)

QR8013 MUN2113 (CPN SP Ⓗ : ON)

IC8005-9 PLAY
100mVp-p (20μsec. div)

IC8006-29 PLAY
800mVp-p (20μsec. div)

IC8006-18 PLAY
400mVp-p (20μsec. div)

IC8006-1 PLAY
1.1Vp-p (20μsec. div)

IC8006-3 PLAY
1.3Vp-p (20μsec. div)

IC8005-4 PLAY
180mVp-p (20μsec. div)

IC8005-6 PLAY
1.9Vp-p (20μsec. div)

IC8002-14 REC
530mVp-p (20μsec. div)

IC8002-12 REC
160mVp-p (20μsec. div)

IC8002-11 REC
160mVp-p (20μsec. div)

IC8002-3 REC
100mVp-p (20μsec. div)

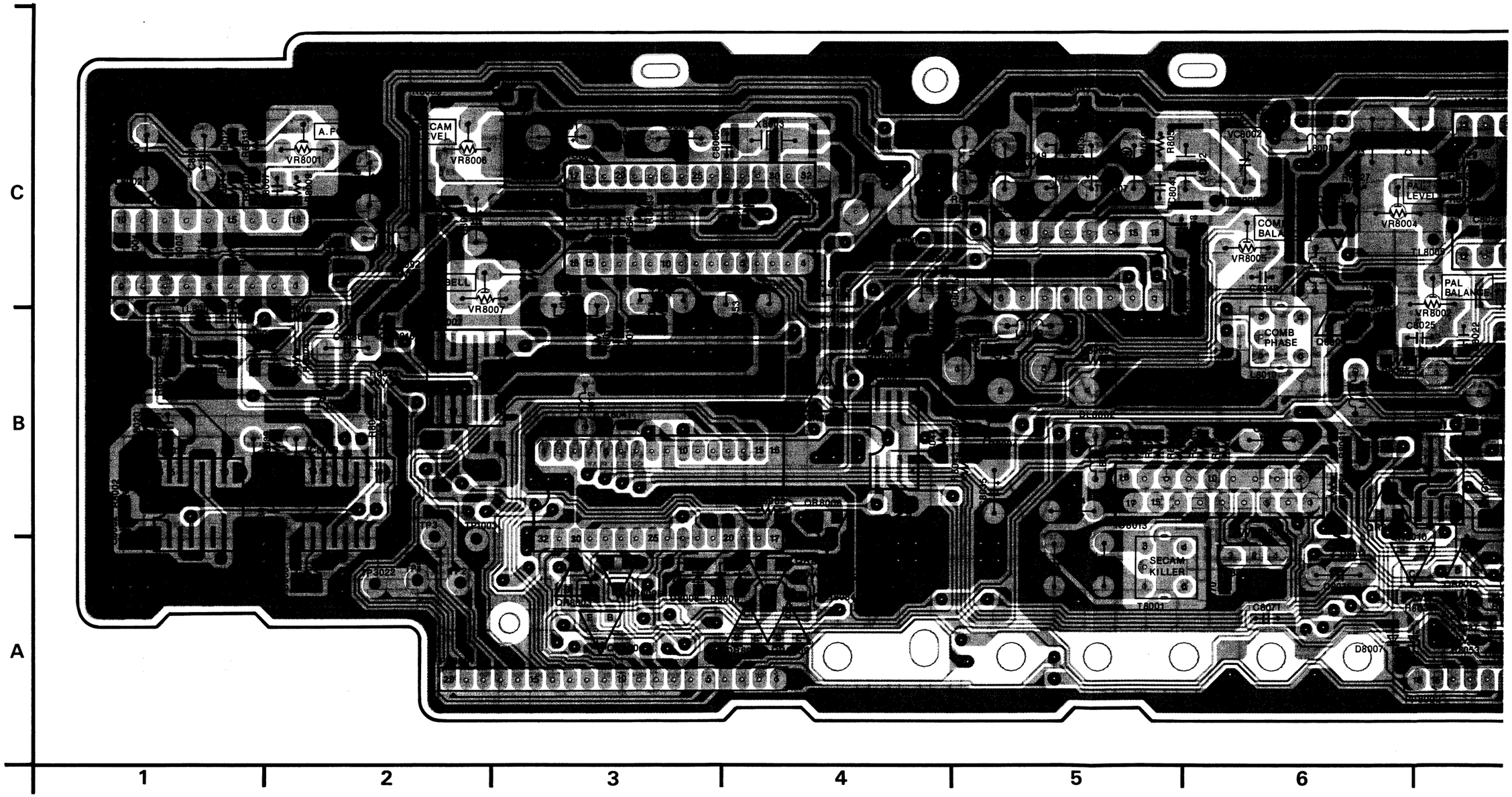
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

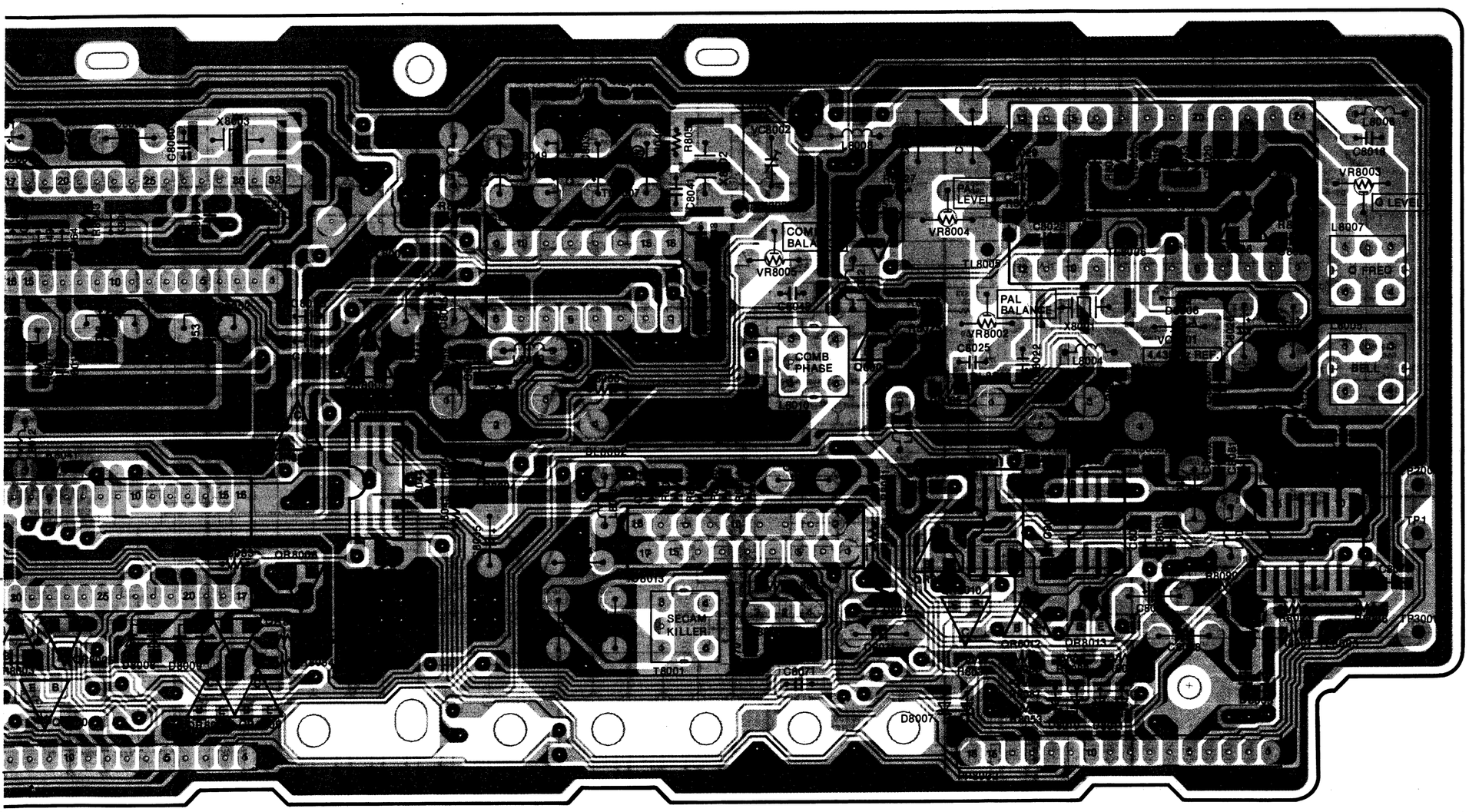
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21

4-12. TRANSCODER C.B.A. (VEP08178A)



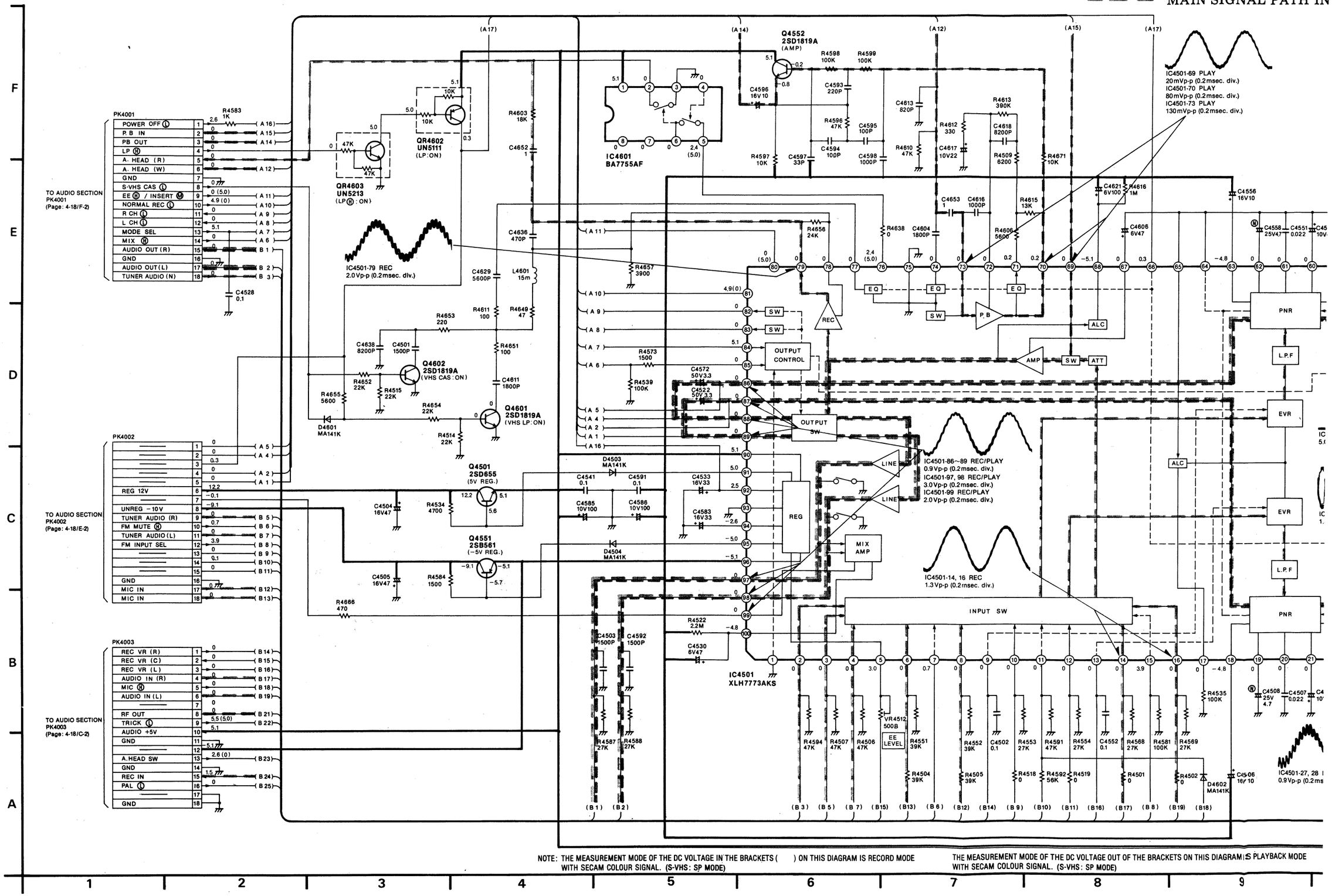


TRANSCODER PACK C.B.A.	
Transistor	
Q8001	C-3
Q8004	B-6
Q8005	C-6
Q8006	C-8
Transistor & Resistor	
QR8001	B-4
QR8002	B-4
QR8003	A-3
QR8004	A-3
QR8005	A-3
QR8006	B-4
QR8007	A-4
QR8008	A-4
QR8009	A-4
QR8010	A-6
QR8011	B-6
QR8012	A-7
QR8013	A-7
QR8016	B-2
Integrated Circuit	
IC8001	C-1
IC8002	C-7
IC8003	B-2
IC8004	B-4
IC8005	C-5
IC8006	C-3
IC8007	B-2
IC8008	B-3
IC8009	B-8
IC8010	B-7
IC8011	B-7
IC8012	B-1
IC8013	B-5
Test Point	
TP1	B-8
TP2	A-2
TP3	B-2
TP4	A-2
TP1003	B-2
TP2001	B-8
TP3001	A-8
TP3022	A-2
TL8001	C-8
TL8002	C-1
TL8003	A-8
TL8004	B-1
TL8005	C-7
TL8006	C-7
TL8007	C-5
TL8008	C-6
TL8009	C-4
Adjustment	
L8005	B-8
L8007	C-8
L8010	B-6
T8001	A-5
VC8001	C-7
VC8002	C-6
VR8001	C-2
VR8002	B-7
VR8003	C-8
VR8004	C-6
VR8005	C-6
VR8006	C-2
VR8007	B-3
Connector	
PP8001	A-2
PP8002	A-7

ADDRESS INFORMATION

4-13. Hi-Fi AUDIO PACK SCHEMATIC DIAGRAM

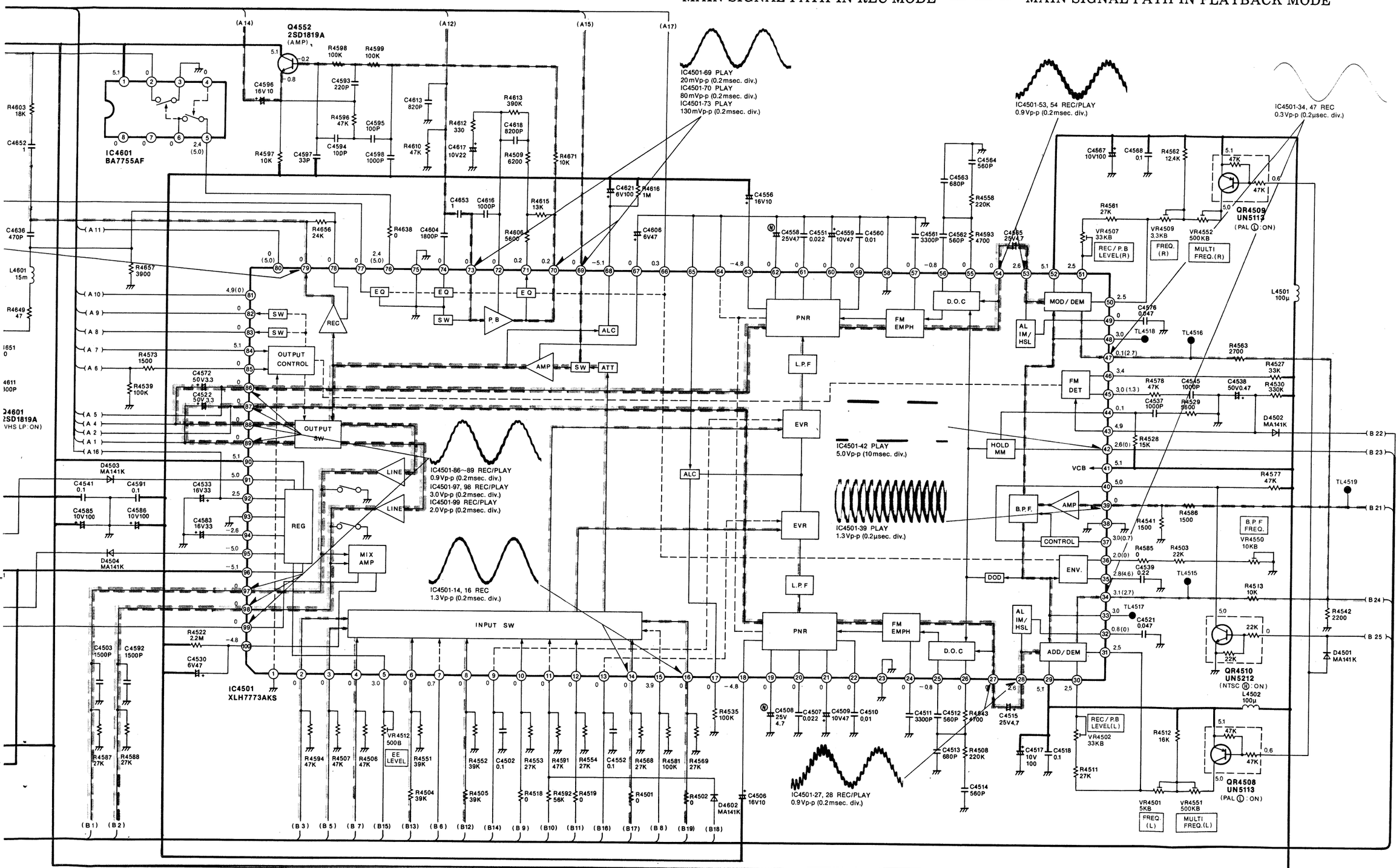
MAIN SIGNAL PATH IN



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

MAIN SIGNAL PATH IN REC MODE — — — MAIN SIGNAL PATH IN PLAYBACK MODE



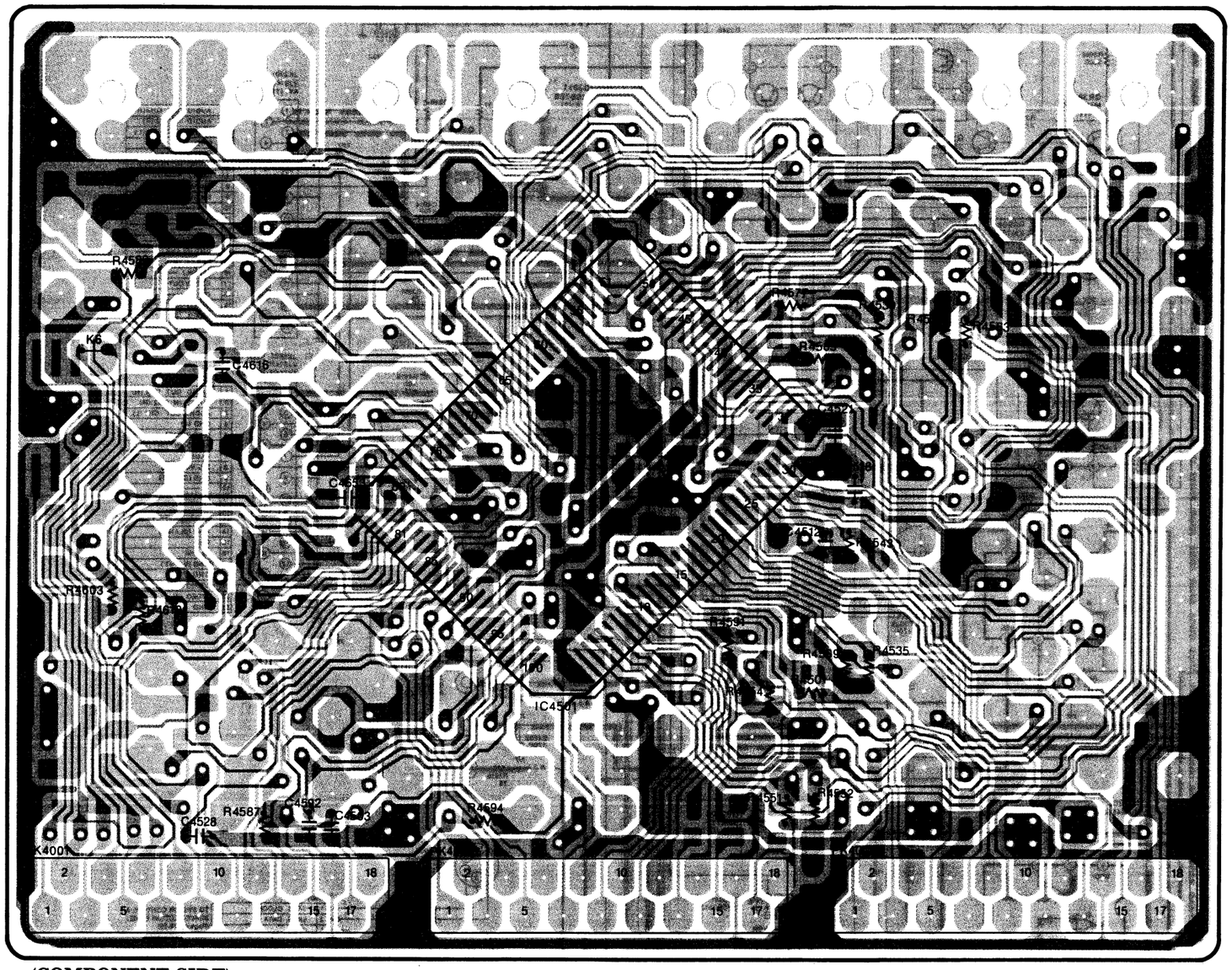
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

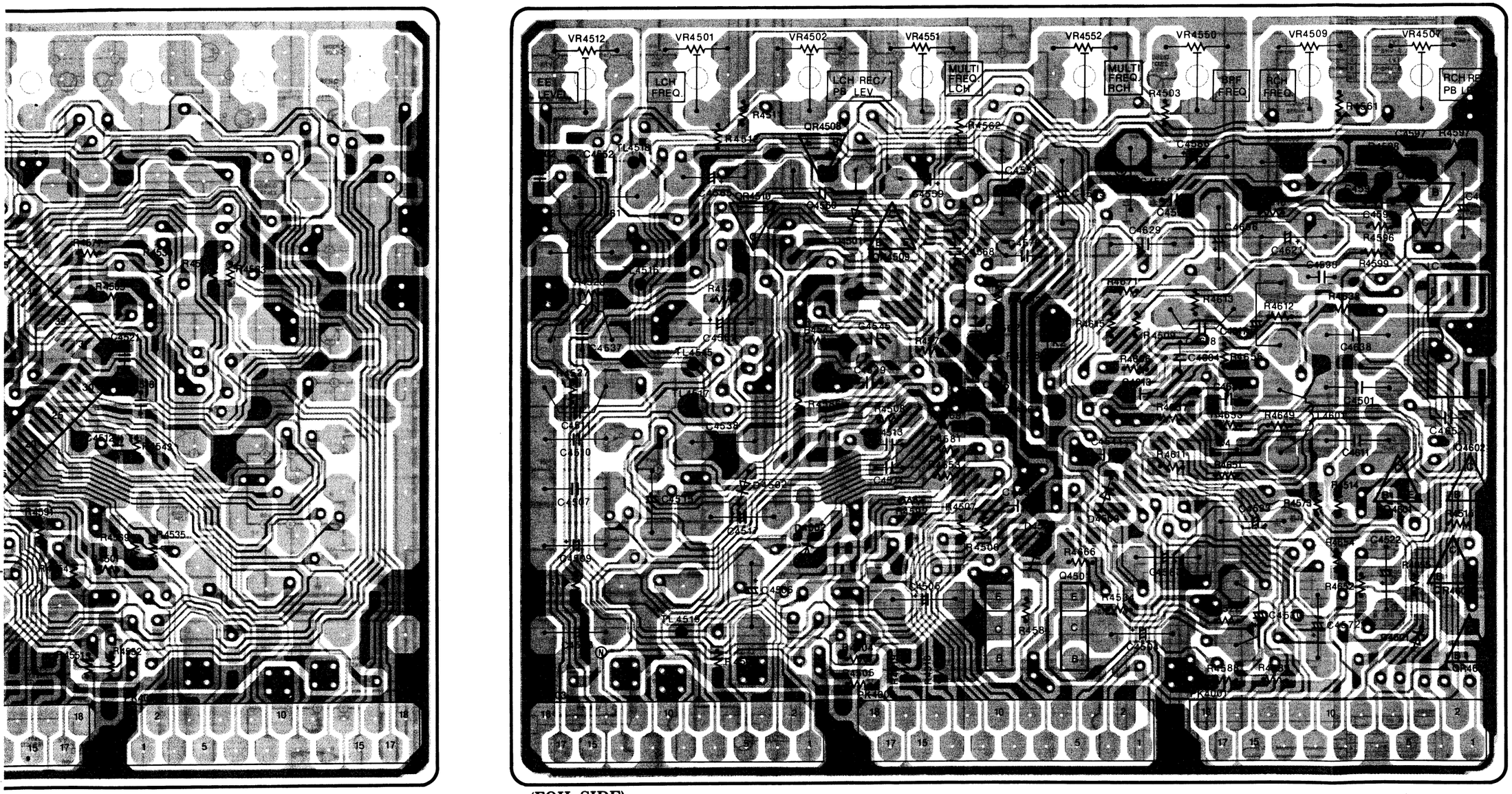
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

• LINE IN SIGNAL LEVEL... 10dB 1kHz

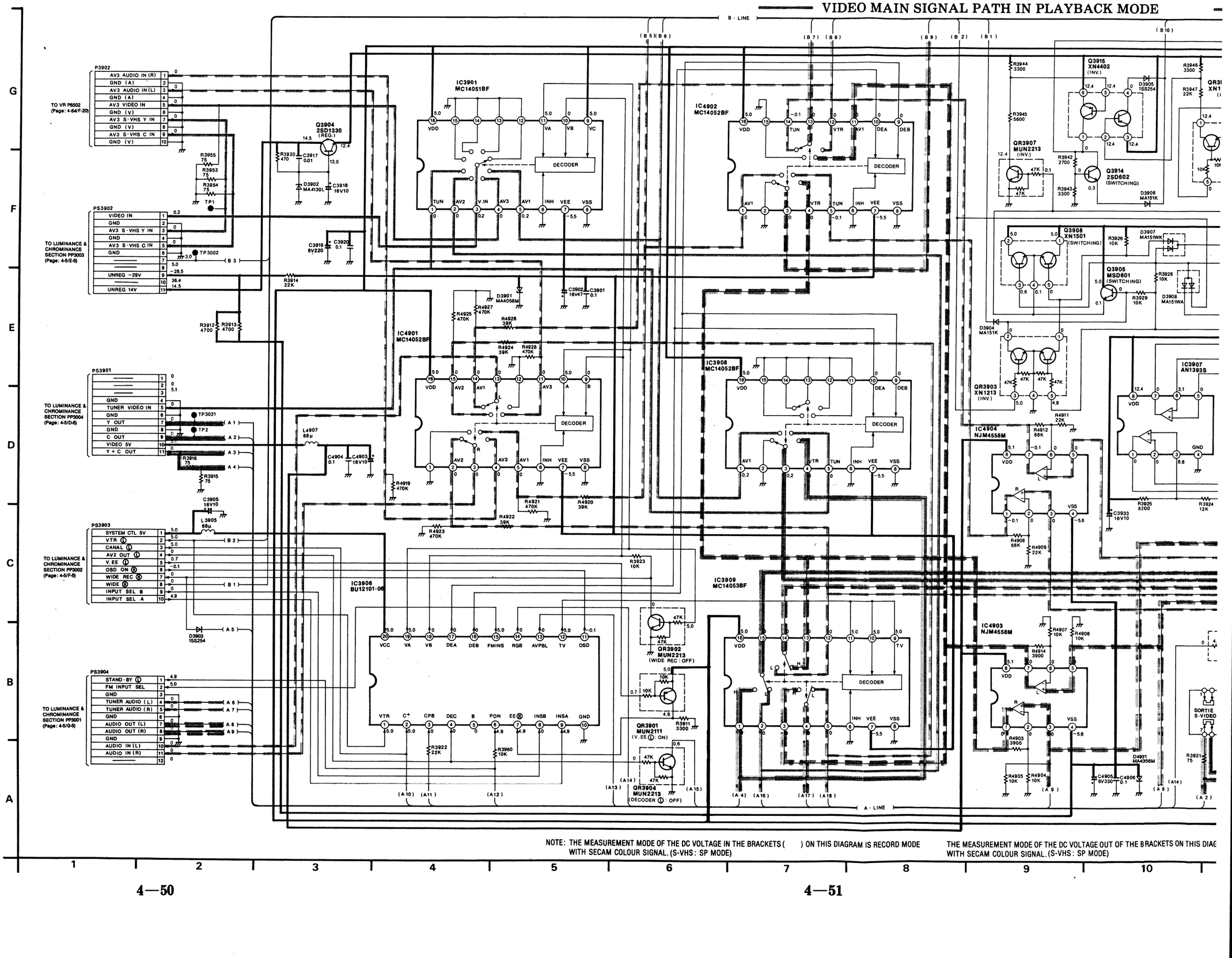
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-14. Hi-Fi AUDIO PACK C.B.A. (VEP04447PR)



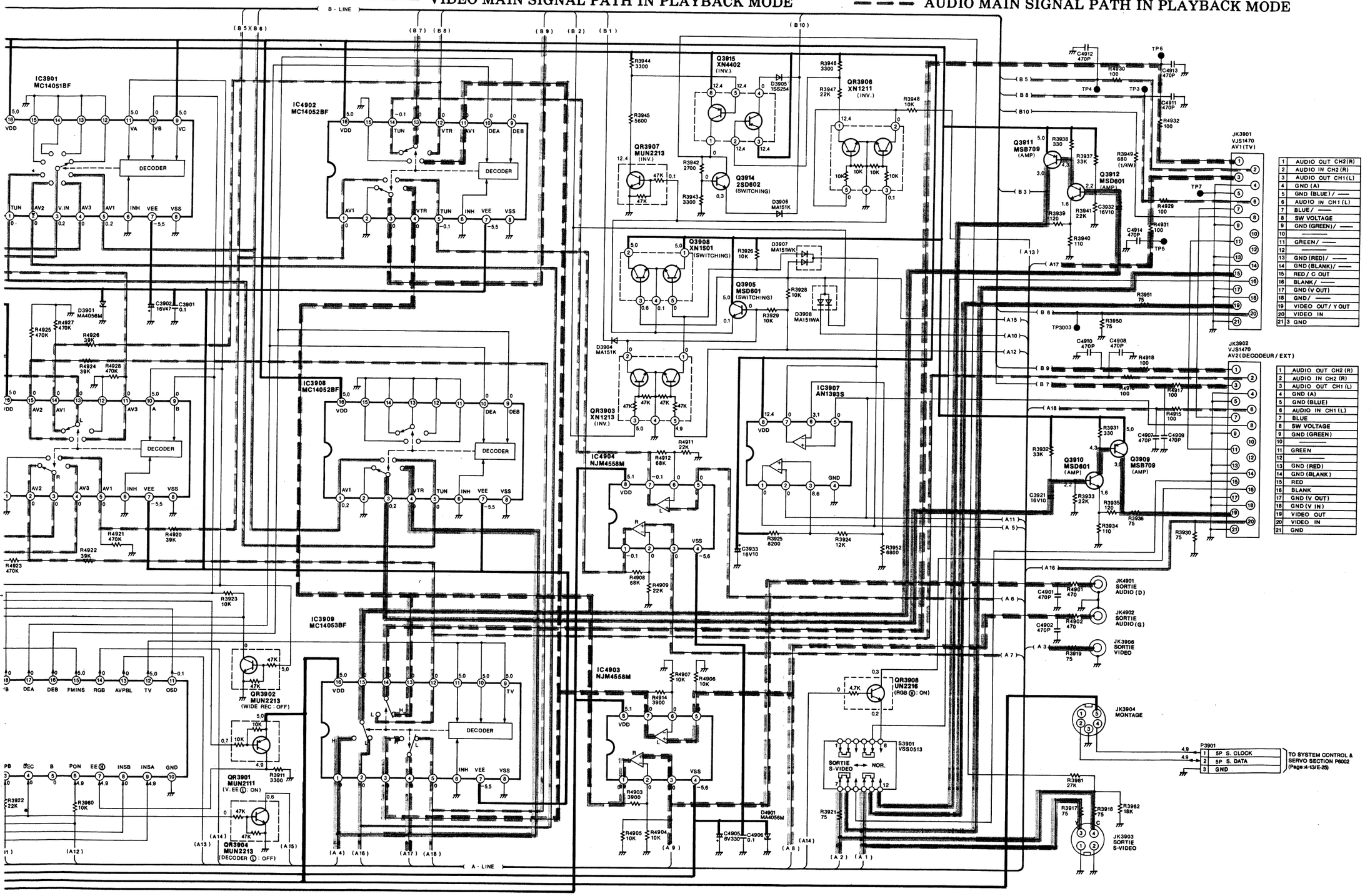

VR4512
VR4501
VR4502
VR4551
VR4552
VR4550
VR4509
VR4507
EE LEVEL
LCH FREQ.
LCH REC/ PB LEV
MULTI FREQ. LCH
MULTI FREQ. RCH
SRF FREQ.
RCH FREQ.
RCH REC/ PB LEV
QR4508
QR4509
QR4510
QR4602
QR4603
Q4501
Q4551
Q4552
Q4601
Q4602
Q4501
Q4602
Q4501
Q4602
Q4501

4-15. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM



;RAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



1	AUDIO OUT CH2 (R)
2	AUDIO IN CH2 (R)
3	AUDIO OUT CH1 (L)
4	GND (A)
5	GND (BLUE) / ——
6	AUDIO IN CH1 (L)
7	BLUE / ——
8	SW VOLTAGE
9	GND (GREEN) / ——
10	——
11	GREEN / ——
12	——
13	GND (RED) / ——
14	GND (BLANK) / ——
15	RED / C OUT
16	BLANK / ——
17	GND (V OUT)
18	GND / ——
19	VIDEO OUT / Y OUT
20	VIDEO IN
21	GND

1	AUDIO OUT CH2 (R)
2	AUDIO IN CH2 (R)
3	AUDIO OUT CH1 (L)
4	GND (A)
5	GND (BLUE)
6	AUDIO IN CH1 (L)
7	BLUE
8	SW VOLTAGE
9	GND (GREEN)
10	——
11	GREEN
12	——
13	GND (RED)
14	GND (BLANK)
15	RED
16	BLANK
17	GND (V OUT)
18	GND (V IN)
19	VIDEO OUT
20	VIDEO IN
21	GND

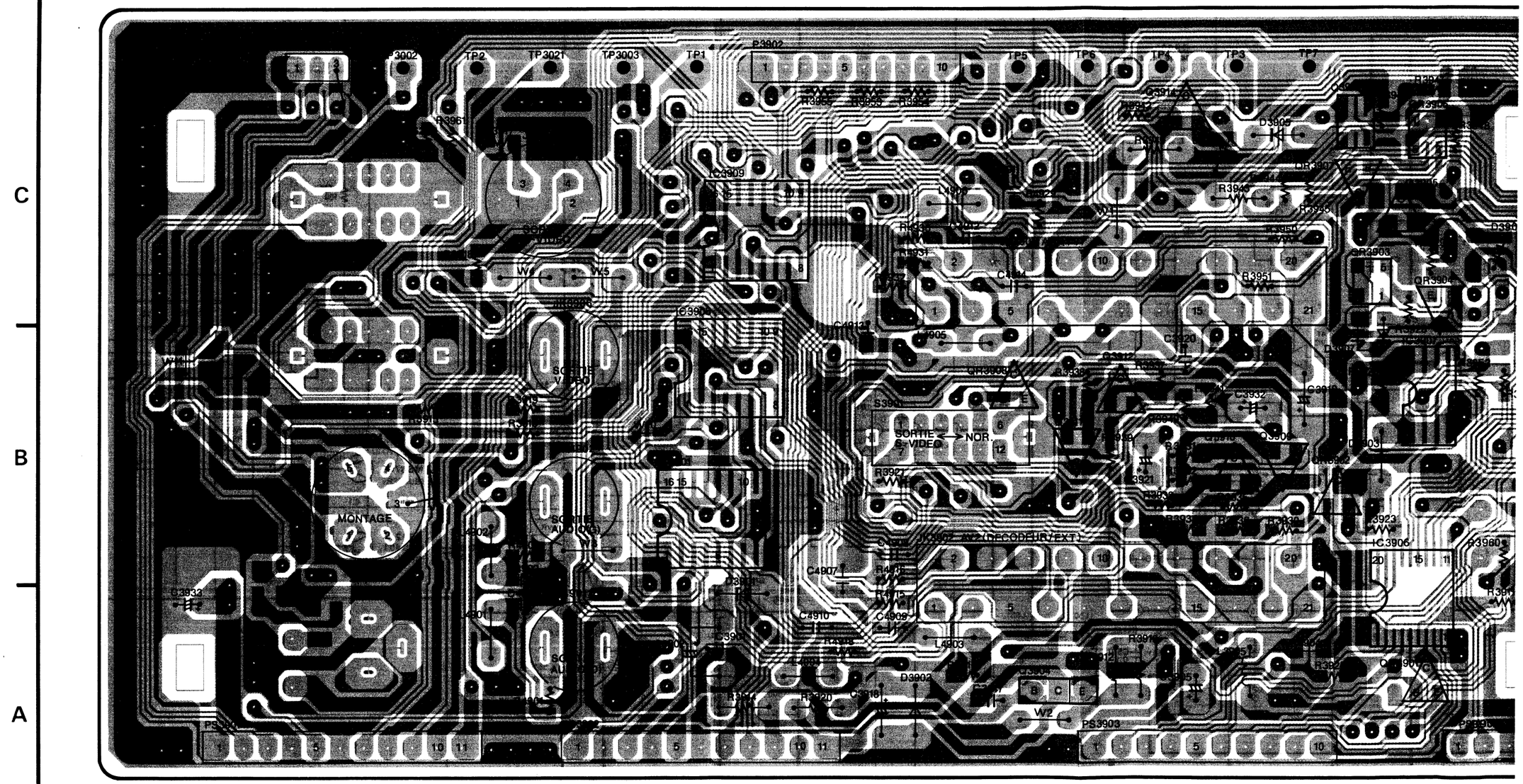
1	5P S. CLOCK
2	5P S. DATA
3	GND

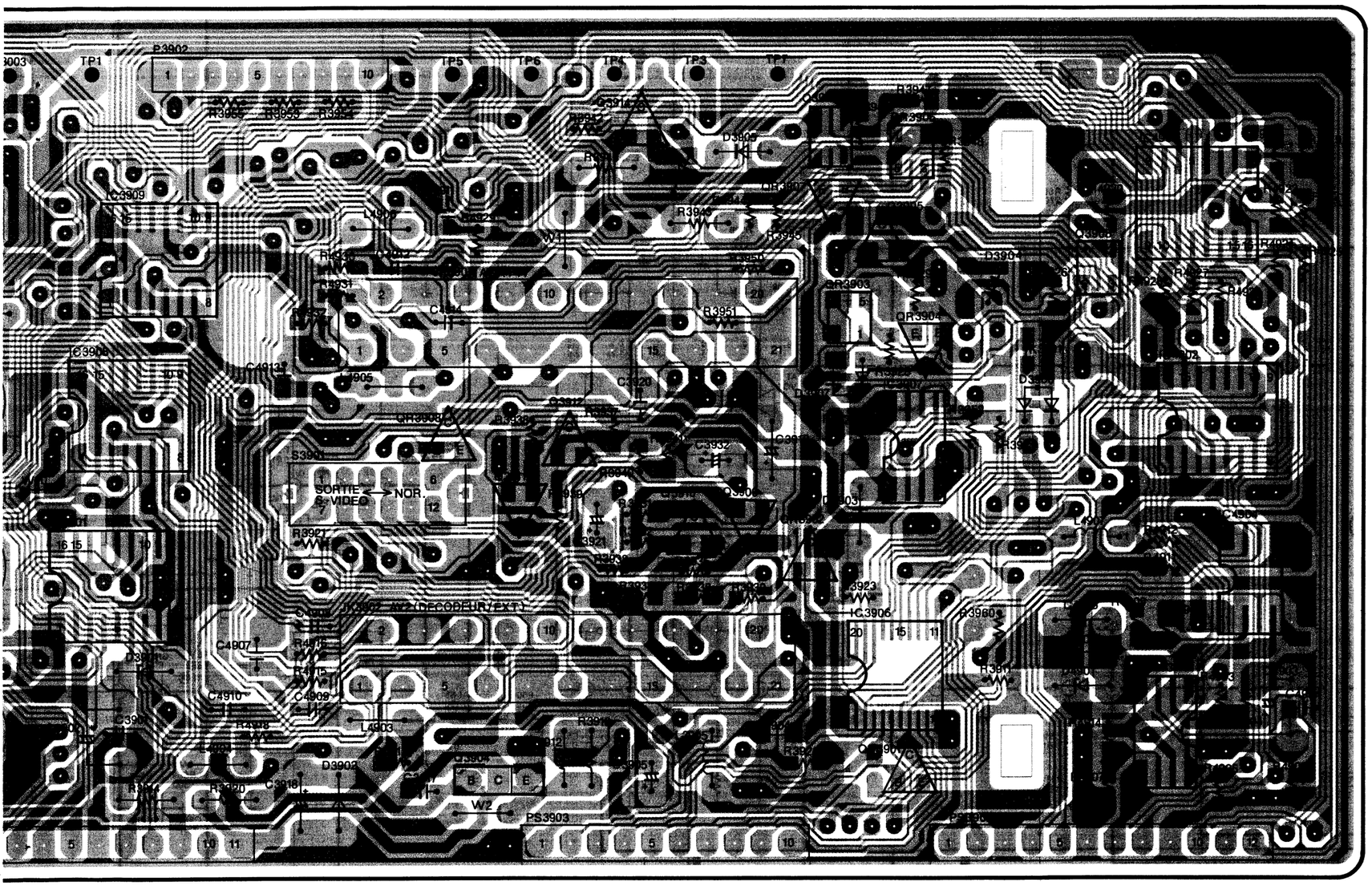
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-16. INPUT/OUTPUT PACK C.B.A. (VEP03B75B)



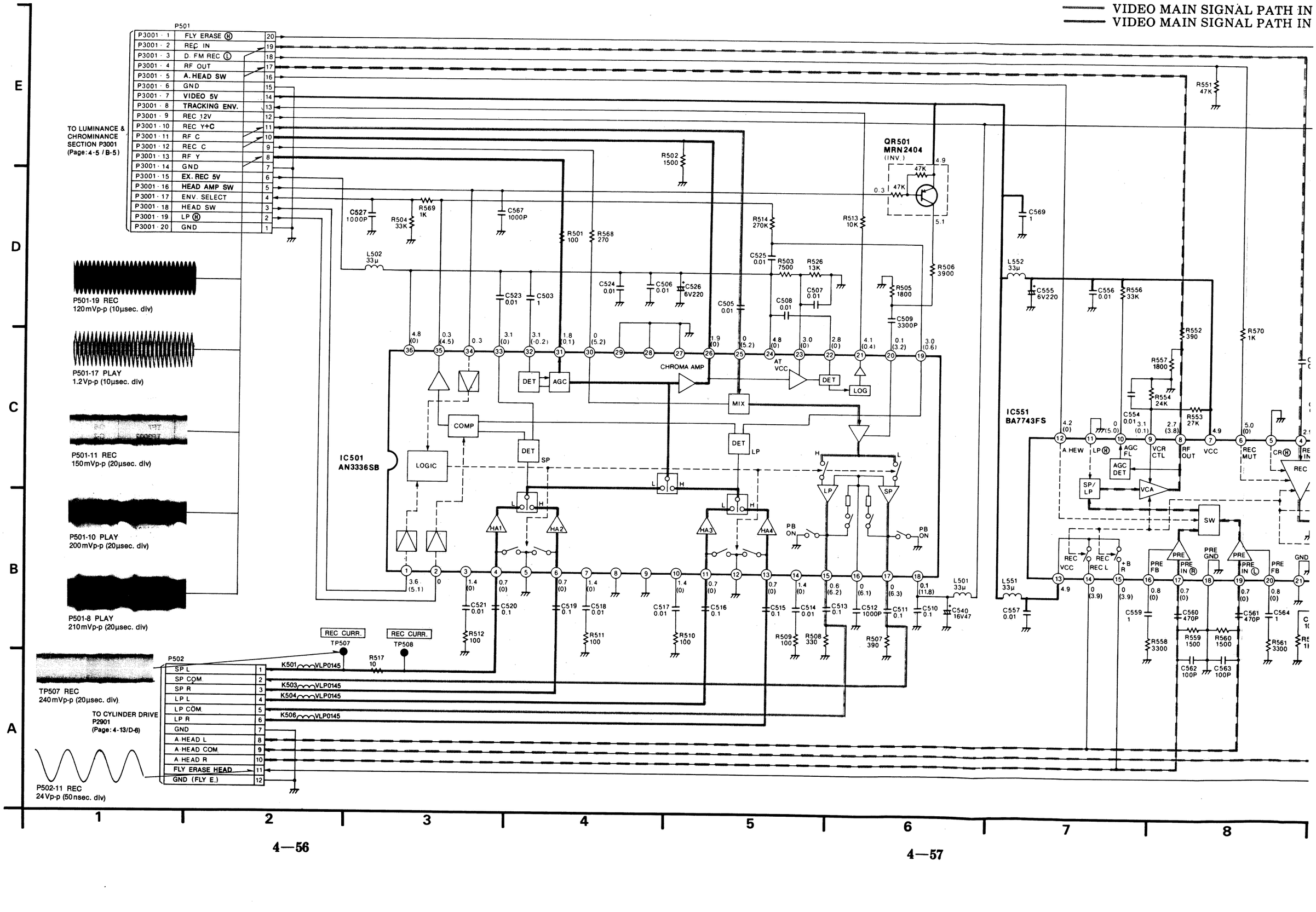


3 4 5 6 7

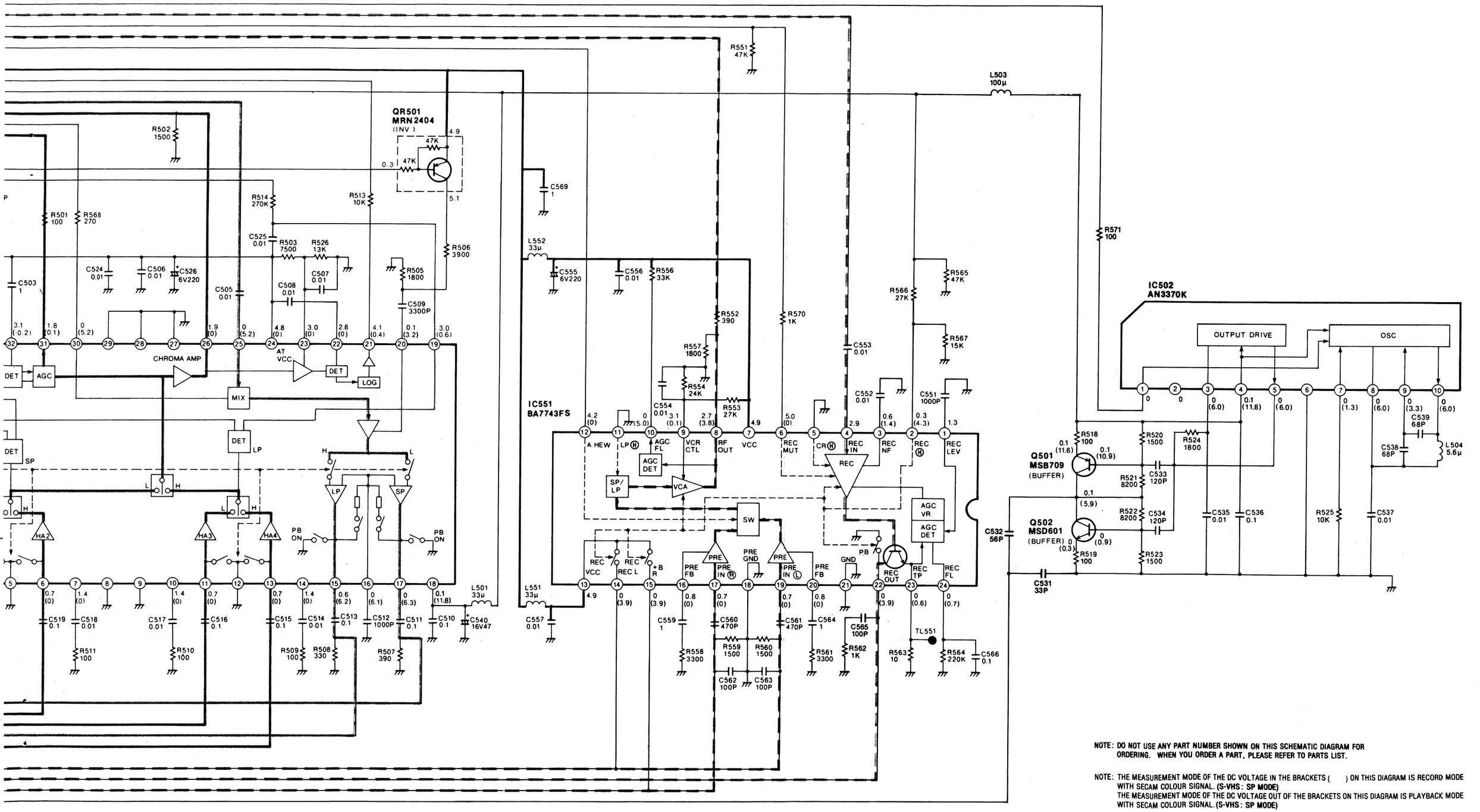
INPUT/OUTPUT PACK C.B.A.	
Transistor	
Q3904	A-4
Q3905	C-6
Q3908	C-6
Q3909	B-5
Q3910	B-5
Q3911	B-4
Q3912	B-5
Q3914	C-5
Q3915	C-6
Transistor & Resistor	
QR3901	A-6
QR3902	B-5
QR3903	C-6
QR3904	C-6
QR3906	C-6
QR3907	C-6
QR3908	B-4
Integrated Circuit	
IC3901	B-3
IC3906	B-6
IC3907	B-6
IC3908	B-3
IC3909	C-3
IC4901	C-7
IC4902	B-7
IC4903	A-7
IC4904	B-7
Test Point	
TP1	C-3
TP2	C-2
TP3	C-5
TP4	C-5
TP5	C-4
TP6	C-5
TP7	C-5
TP3002	C-2
TP3003	C-3
TP3021	C-2
Connector	
P3901	C-2
P3902	C-3
PS3901	A-1
PS3902	A-3
PS3903	A-5
PS3904	A-6

ADDRESS INFORMATION

4-17. HEAD AMP SCHEMATIC DIAGRAM



VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE
Hi-Fi AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



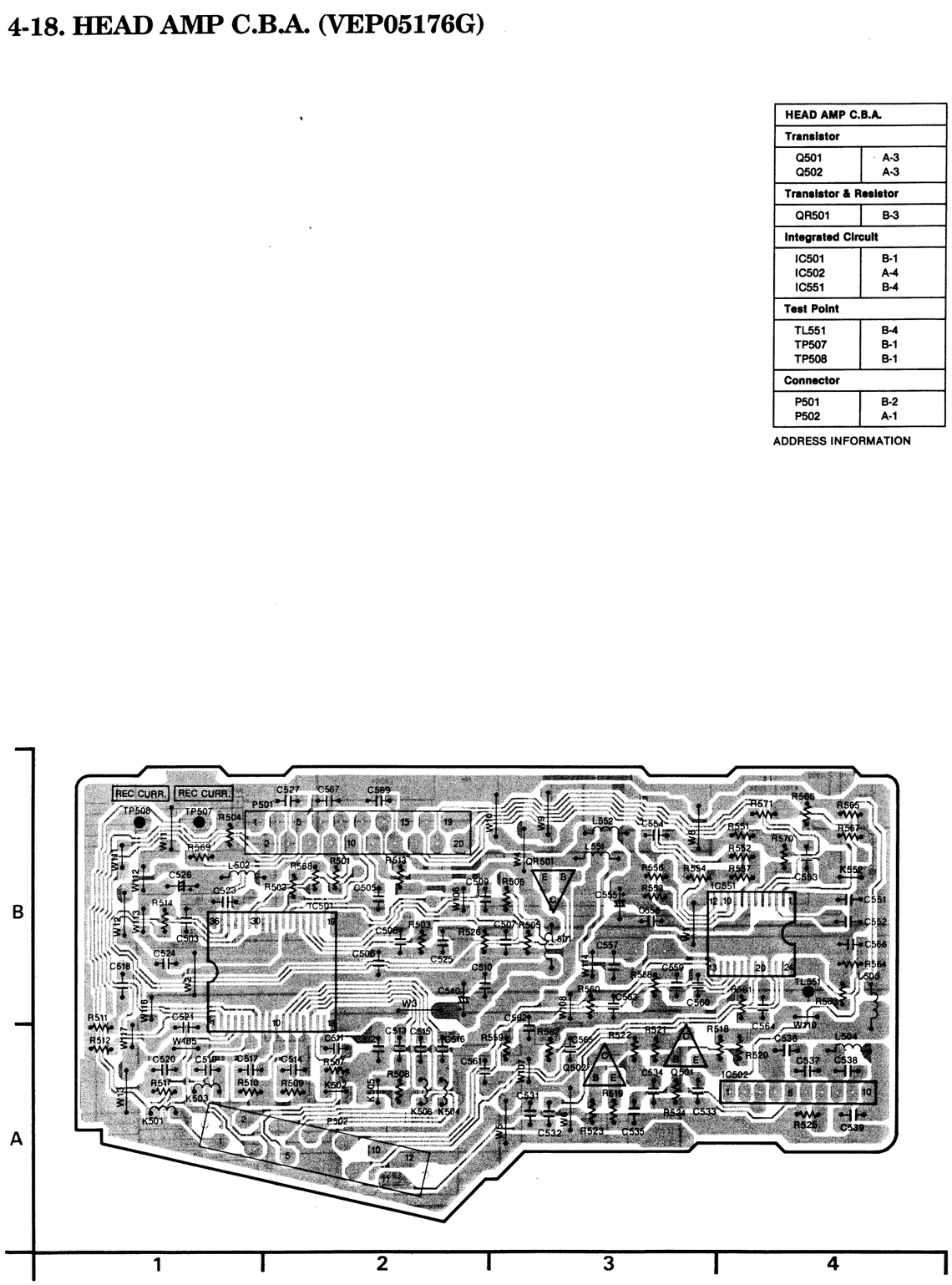
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH SECAM COLOUR SIGNAL. (S-VHS: SP MODE)

4-18. HEAD AMP C.B.A. (VEP05176G)

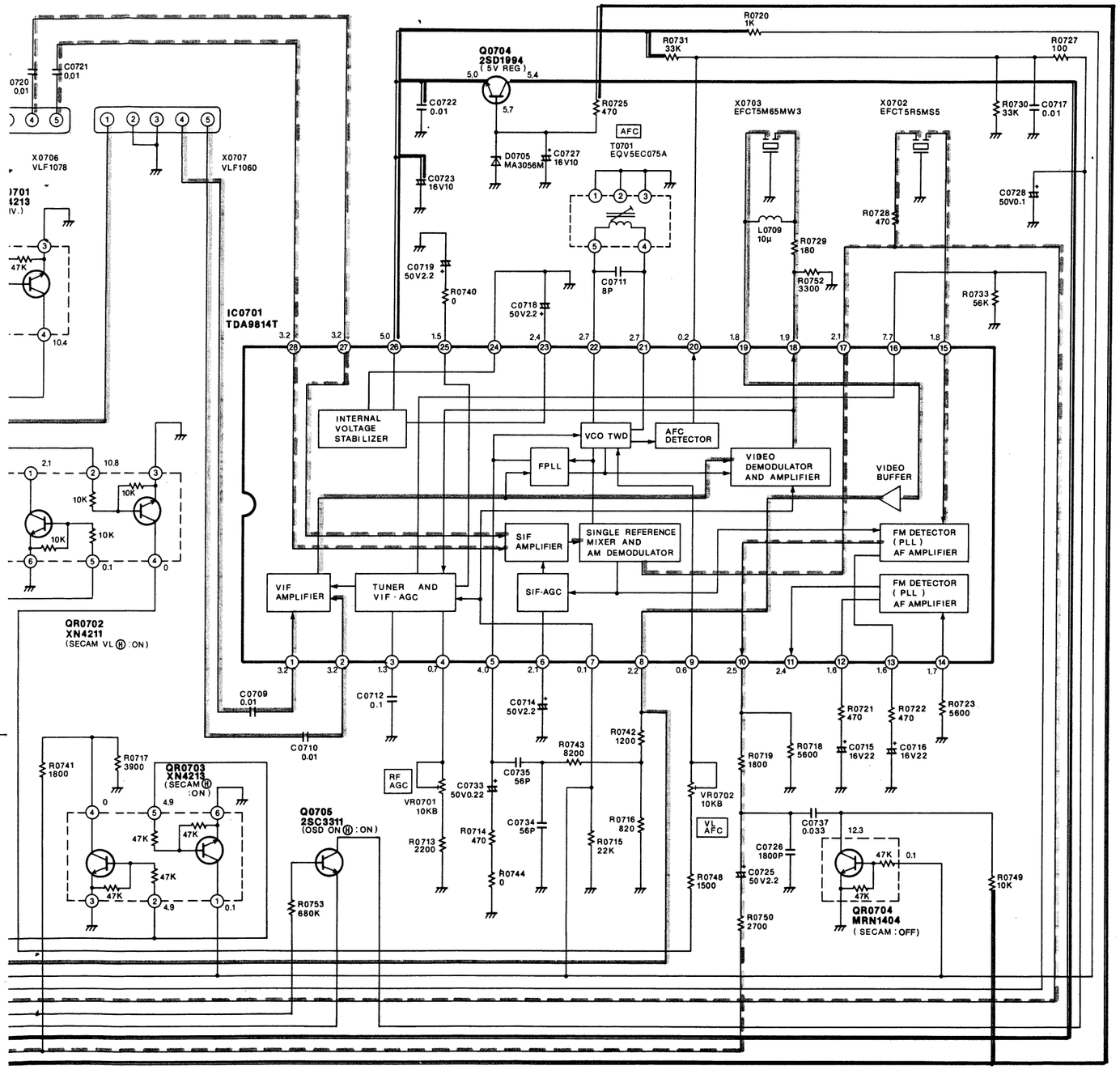
HEAD AMP C.B.A.	
Transistor	
Q501	A-3
Q502	A-3
Transistor & Resistor	
QR501	B-3
Integrated Circuit	
IC501	B-1
IC502	A-4
IC551	B-4
Test Point	
TL551	B-4
TP507	B-1
TP508	B-1
Connector	
P501	B-2
P502	A-1

ADDRESS INFORMATION



M

VIDEO SIGNAL PATH — — — AUDIO MAIN SIGNAL PATH



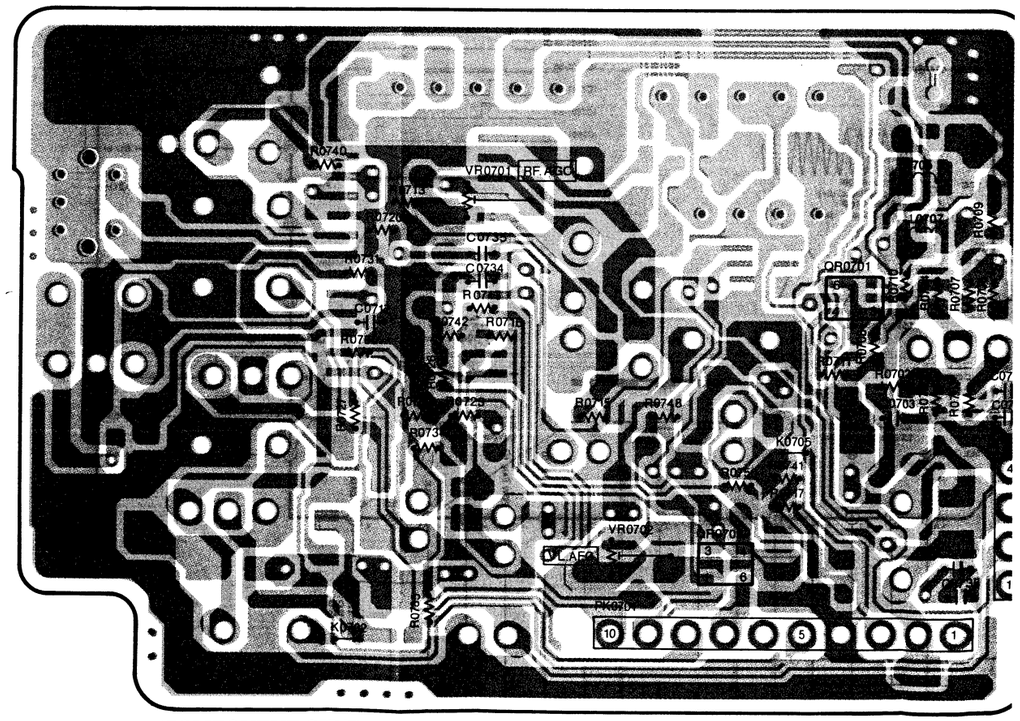
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART. PLEASE REFER TO PARTS LIST.

4 5 6 7 8 9

4-20. TV DEMODULATOR PACK C.B.A. (VEP07797D)

C B A

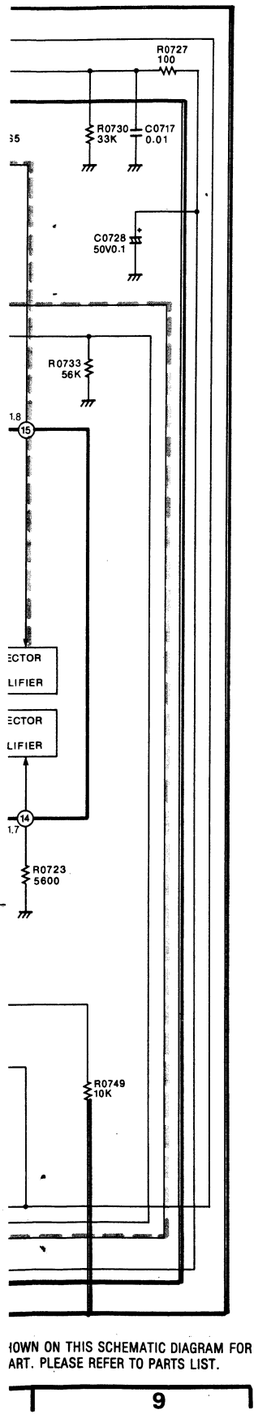


(COMPONENT SIDE)

1 2 3

4-20. TV DEMODULATOR PACK C.B.A. (VEP07797D)

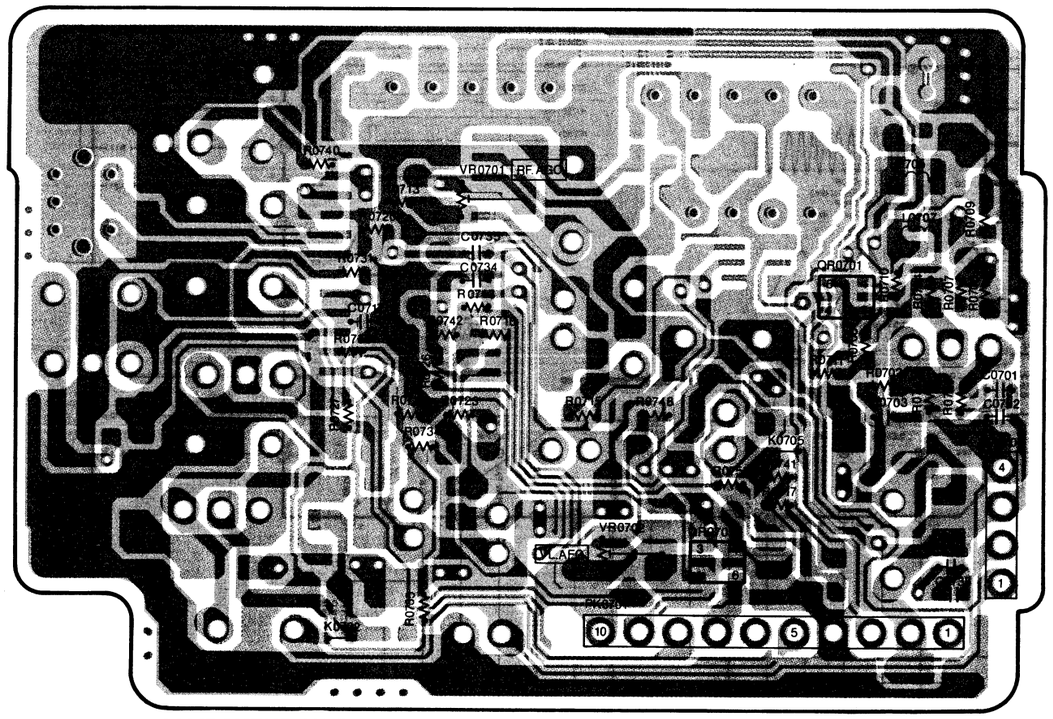
IN SIGNAL PATH



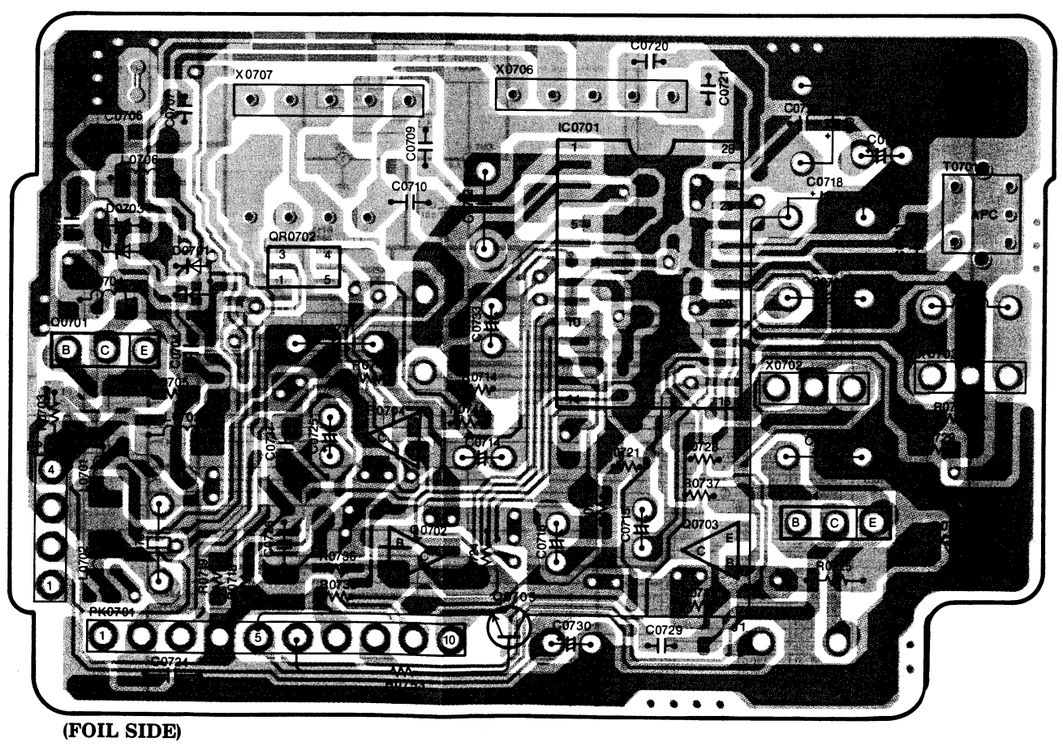
HOWN ON THIS SCHEMATIC DIAGRAM FOR ART. PLEASE REFER TO PARTS LIST.

TV DEMODULATOR PACK C.B.A.			
Transistor		**Adjustment**	
Q0701	B-4	T0701	B-7
Q0702	A-6	VR0701	B-2
Q0703	A-6	VR0702	A-3
Q0704	A-7	**Connector**	
Q0705	A-6	PK0701	A-3
Transistor & Resistor		PK0701	A-5
QR0701	B-3	PP0701	B-4
QR0702	B-5	PP0701	B-4
QR0703	A-3		
QR0704	B-5		
Integrated Circuit			
IC0701	C-6		

ADDRESS INFORMATION



(COMPONENT SIDE)



(FOIL SIDE)

4-21. TIMER & VR SCHEMATIC DIAGRAM

DP7501
VSL0348-B

ENR SAT RESTE VN VL
VIDEO C
dB -∞ 40 20 7 2 0 4 7 10
G
D

IC7504
PST7023
V1
V2
POWER VOLTAGE DET.
OUTPUT CIRCUIT
VCC GND RST

IC7505
S80743AL
OUTPUT CIRCUIT
POWER VOLTAGE DET.
OUT VDD VSS

IC7501
M37507V6AD

IC7503
RPM875CBRX10
(IR RECEIVER)
VCC GND OUT

TL7509
TL7508
TL7501

RX7502
EXBF8E104J
(100K × 5)

RX7501
EXBF6E104J
(100K × 5)

P7501

P3003-1	HEATER (+)	32
P3003-2	HEATER (−)	31
P3003-3	UNREG −29V	30
P3003-4	SEL MUTE (N)	29
P3003-5	AUDIO DEF (N)	28
P3003-6	FS CS (N)	27
P3003-7	AFC S-CURVE	26
P3003-8	FS CLOCK	25
P3003-9	TIMER BUS TLK	24
P3003-10	TIMER BUS LSN	23
P3003-11	TIMER BUS CLK	22
P3003-12	GND	21
P3003-13	S. CLOCK	20
P3003-14	S. DATA	19
P3003-15	SYSTEM CTL 5V	18
P3003-16	INPUT SEL A	17
P3003-17	INPUT SEL B	16
P3003-18	S-VHS IN (L)	15
P3003-19	MONO (N)	14
P3003-20	GND	13
P3003-21	CARA ON (N)	12
P3003-22		11
P3003-23	OSD ON (N)	10
P3003-24	BACK UP 5V	9
P3003-25	RESET (L)	8
P3003-26	AV2 OUT (L)	7
P3003-27	FIP ON (N)	6
P3003-28	SERVO 5V	5
P3003-29	METER (R)	4
P3003-30	METER (L)	3
P3003-31	R CH (L)	2
P3003-32	L CH (L)	1

TO LUMINANCE & CHROMINANCE SECTION P3003 (Page: 4-5/E-1)

IC7501-58 STOP
2.0Vp-p (0.2μsec. div.)
IC7501-59 STOP
5.2Vp-p (0.2μsec. div.)

IC7501-61 STOP
1.5Vp-p (10μsec. div.)

IC7501-62 STOP
2.8Vp-p (10μsec. div.)

IC7501-14 STOP
4.0Vp-p (10msec. div.)

IC7501-19 STOP
5.0Vp-p (10msec. div.)

IC7501-17, 18 STOP
5.0Vp-p (10msec. div.)

IC7501-15, 16 STOP
5.0Vp-p (10msec. div.)

RESTE VN VL
dB -∞ 40 20 7 2 0 4 7 10
G
D

IC7506
BA6810F

TO INPUT/OUTPUT PACK
P3902
(Page: 4-50/G-1)

TO LUMINANCE & CHROMINANCE PACK
P301
(Page: 4-33/G-1)

TO BOTTOM PLATE (GND)

P6502
AV3 AUDIO IN (R)
GND (A)
AV3 AUDIO IN (L)
GND (A)
AV3 VIDEO IN
GND (V)
AV3 S-VHS Y IN
GND (V)
AV3 S-VHS C IN
GND (V)

P6504
MESECAM LED
SECAM LED
PAL LED
REC B
REC A
OUTPUT A

P7504
P02
P24
P23
P03
GND
P22
P21
AI ON
SERVO 5V
STAND-BY
SYSTEM CTL 5V
EDIT TRIG
S-VHS IN

P6501
P02
P24
P23
P03
GND
P22
P21
AI ON
SERVO 5V
STAND-BY
SYSTEM CTL 5V
EDIT TRIG
S-VHS IN

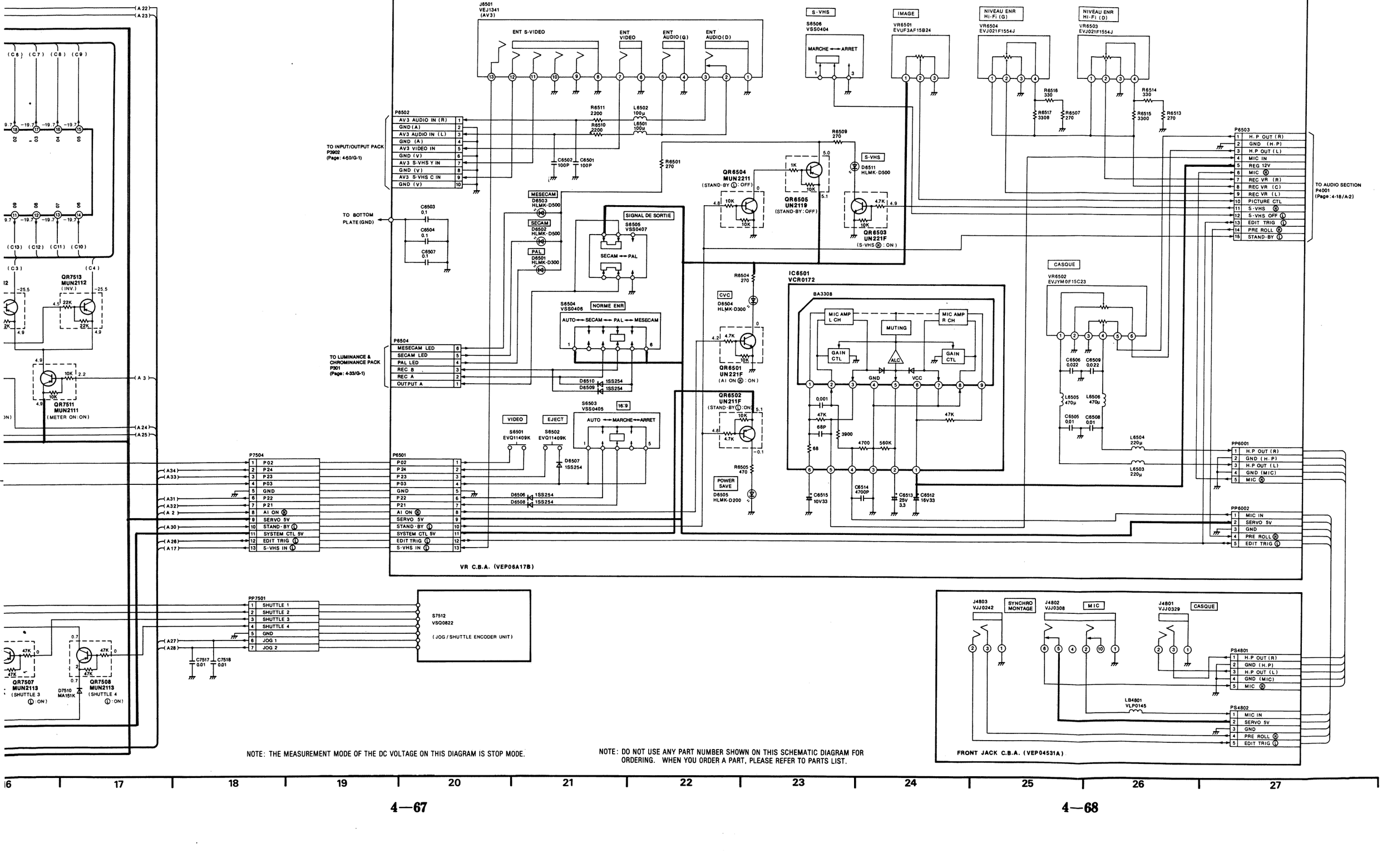
PP7501
SHUTTLE 1
SHUTTLE 2
SHUTTLE 3
SHUTTLE 4
GND
JOG 1
JOG 2

S7512
VSQ0822
(JOG / SHUTTLE ENCODER UNIT

VR C.B.A. (VEPC

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP M

SEGMENT CONTROL SIGNAL — GRID CONTROL SIGNAL — TUNE CONTROL SIGNAL



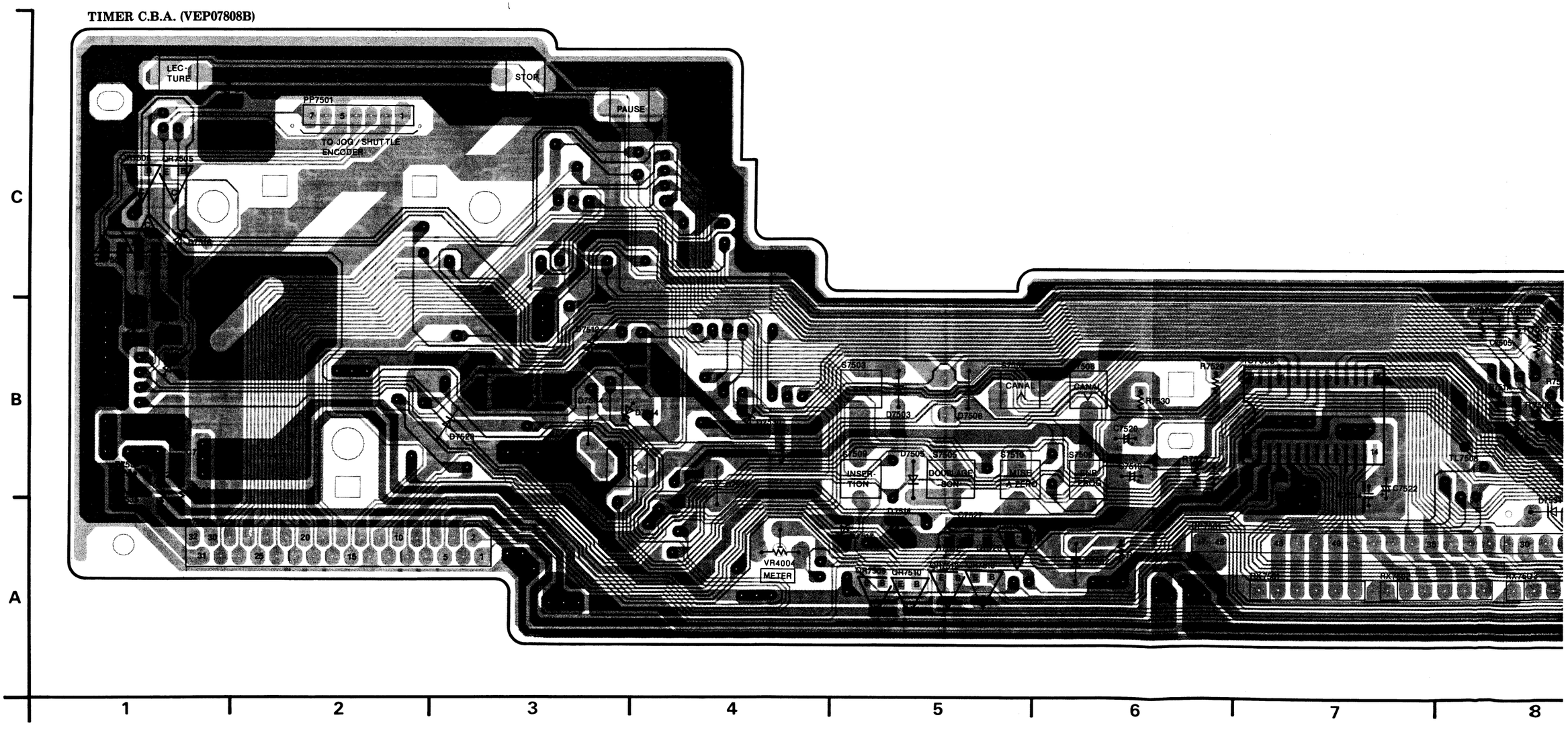
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

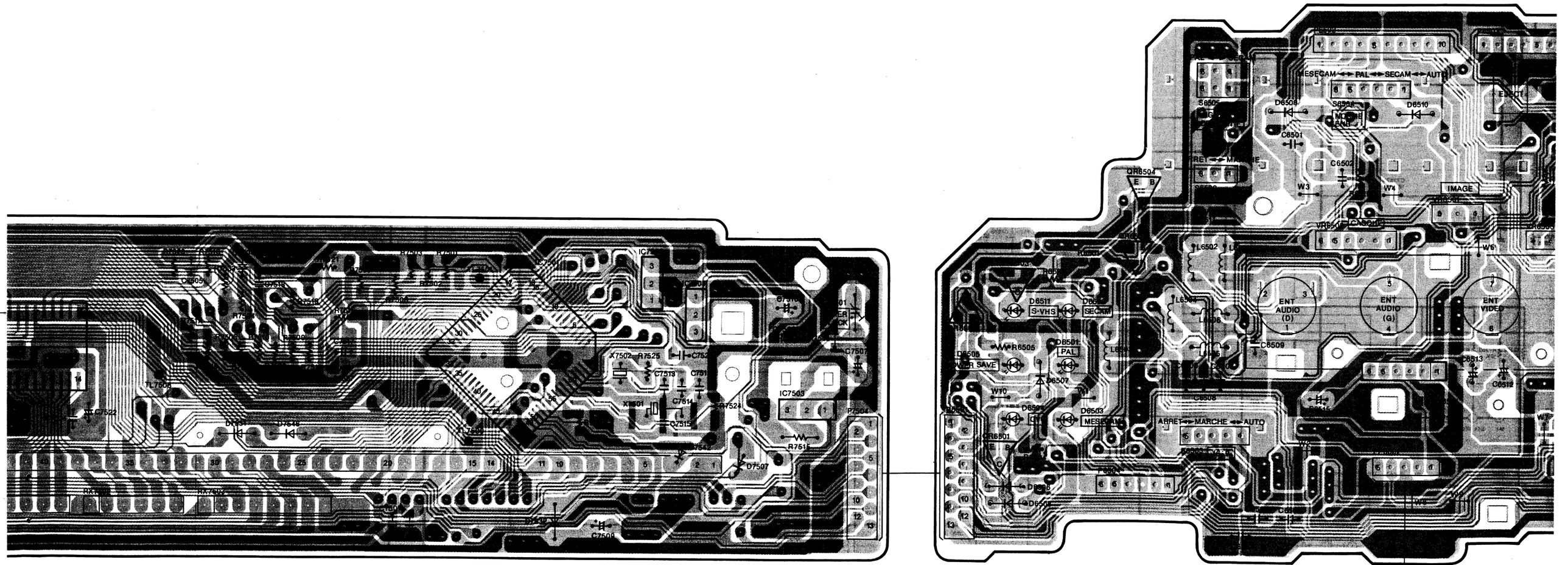
16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27

4-22. TIMER C.B.A. (VEP07808B) & VR C.B.A. (VEP06A17B)

TIMER C.B.A. (VEP07808B)



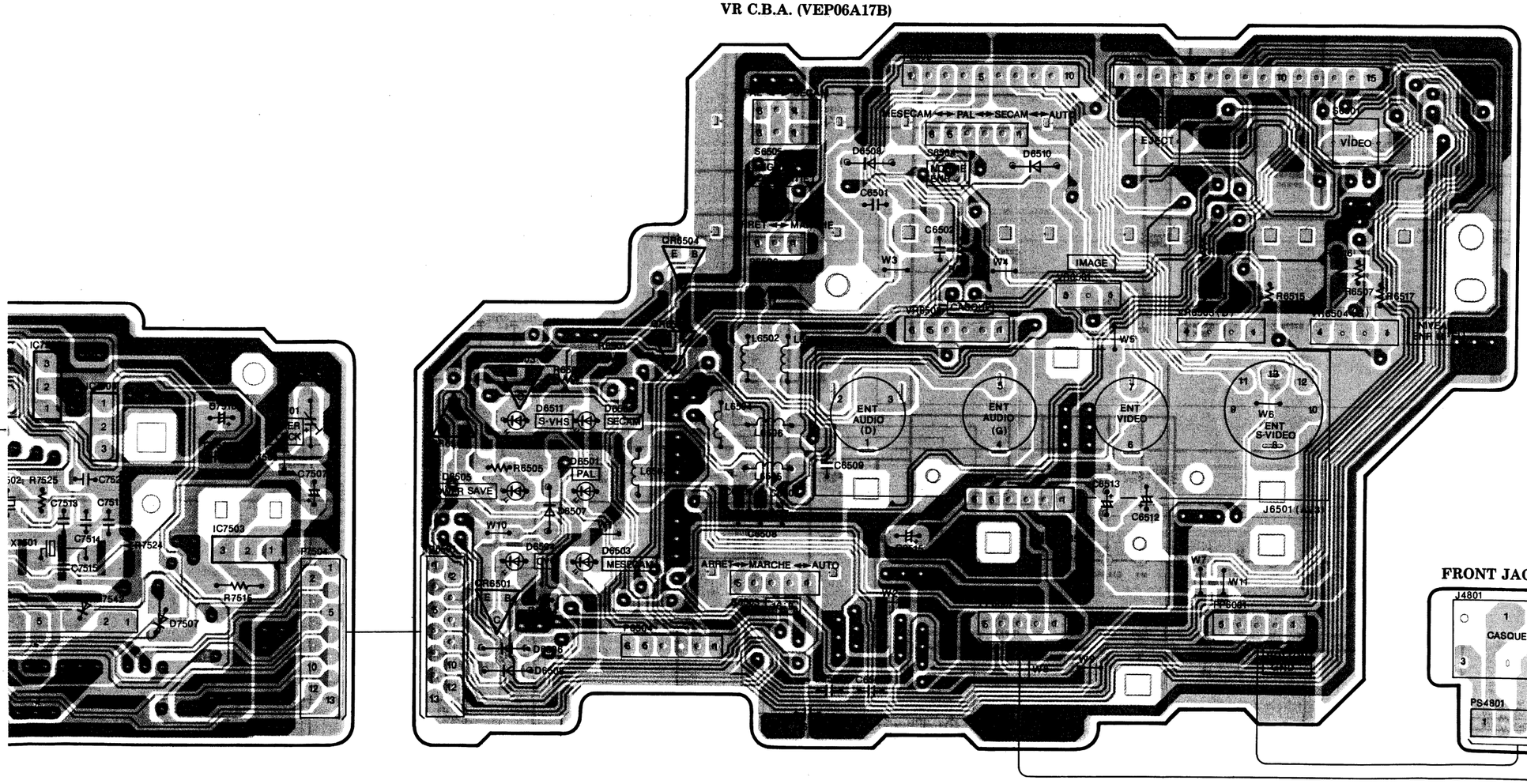
VR C.B.A. (VEP06A17B)



TIMER C.B.A. & VR C.B.A.							
Transistor & Resistor		QR7511	A-5	**Test Point**		**Connector**	
QR6501	A-12	QR7512	A-5	TL7501	B-9	P6501	B-12
QR6502	B-12	QR7513	A-5	TL7508	B-8	P3502	C-14
QR6503	B-12	**Integrated Circuit**		TL7509	A-9	P6503	C-15
QR6504	C-13	IC6501	B-14	**Adjustment**		P6504	A-13
QR6505	C-13	IC7501	B-10	VC7501	B-11	P7501	A-1
QR7505	C-1	IC7503	B-11	VR4004	A-4	P7504	B-11
QR7506	C-1	IC7504	B-11	VR6501	C-15	PP6001	A-15
QR7507	C-1	IC7505	B-10	VR6502	C-14	PP6002	A-14
QR7508	C-1	IC7506	B-7	VR6503	C-15	PP7501	C-2
QR7509	A-5			VR6504	C-16	PS4801	A-17
QR7510	A-5					PS4802	A-18

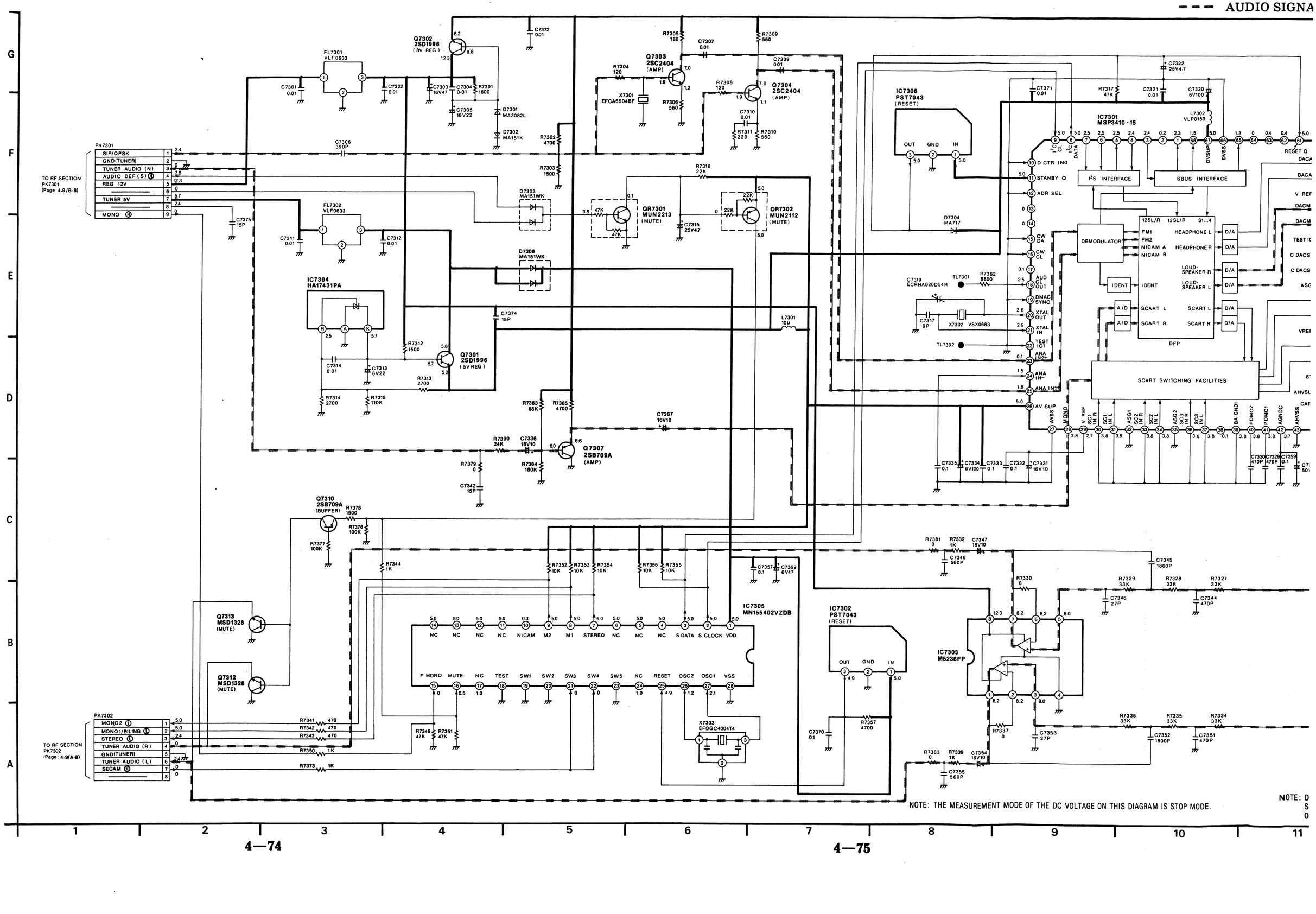
ADDRESS INFORMATION

VR C.B.A. (VEP06A17B)

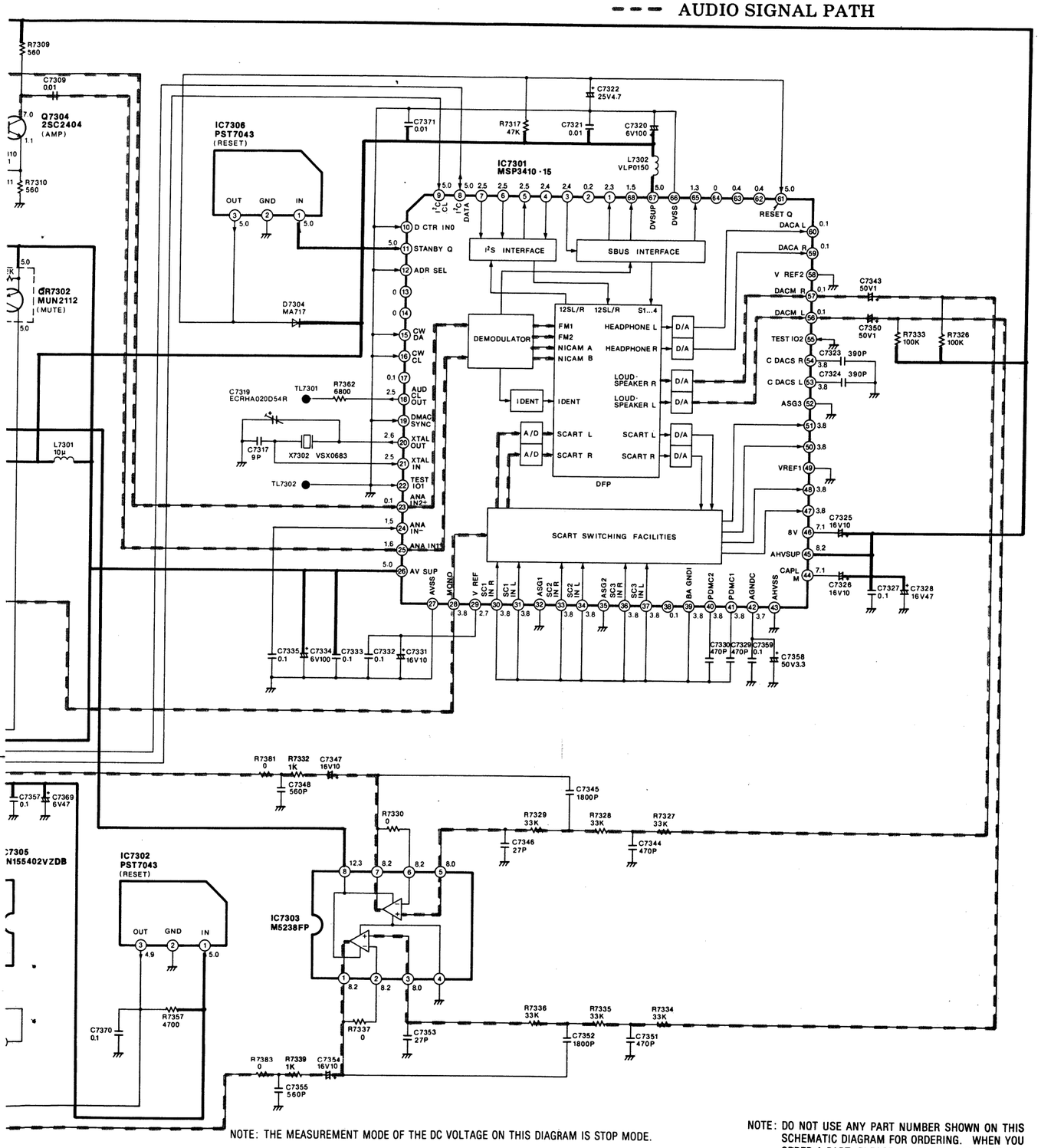


4-23. NICAM DECODER PACK SCHEMATIC DIAGRAM

AUDIO SIGNA



AUDIO SIGNAL PATH

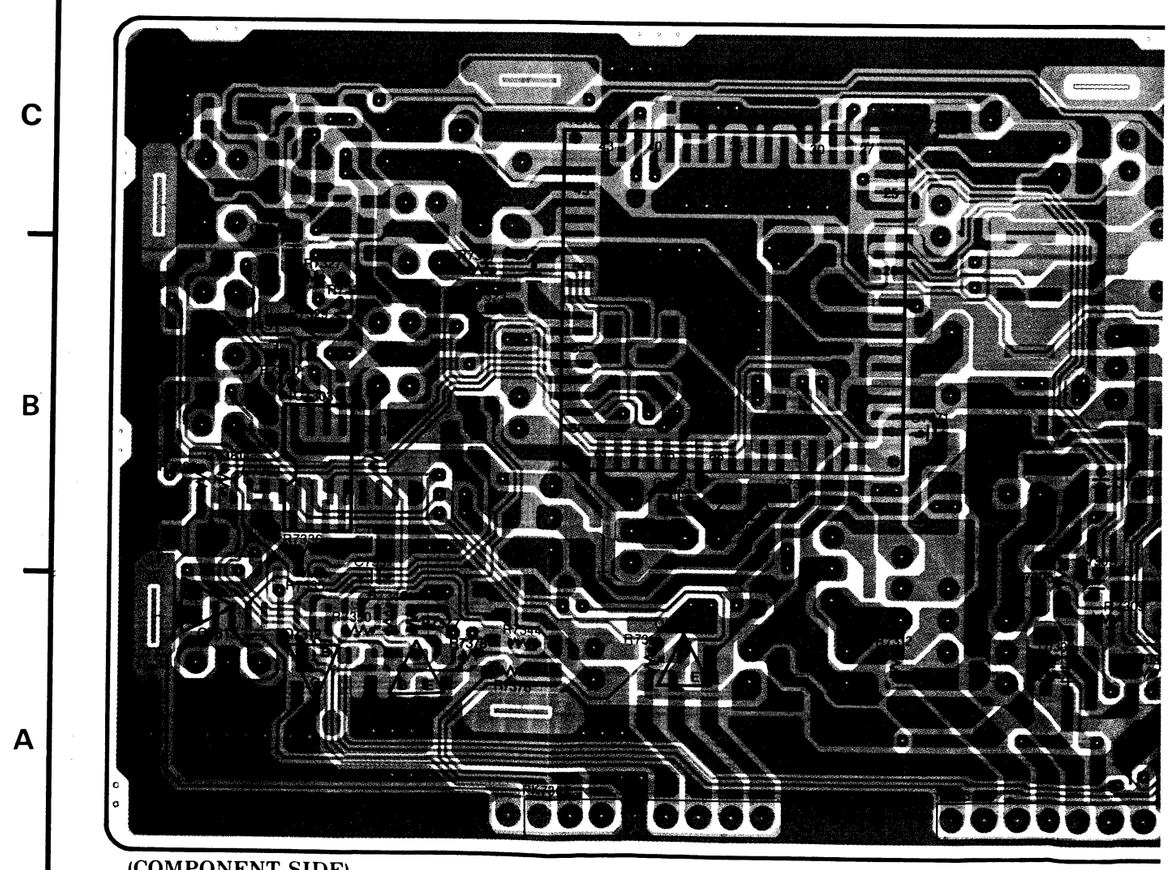


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

7 8 9 10 11 12

4-24. NICAM DECODER PACK C.B.A. (VEP07787L)



C B A

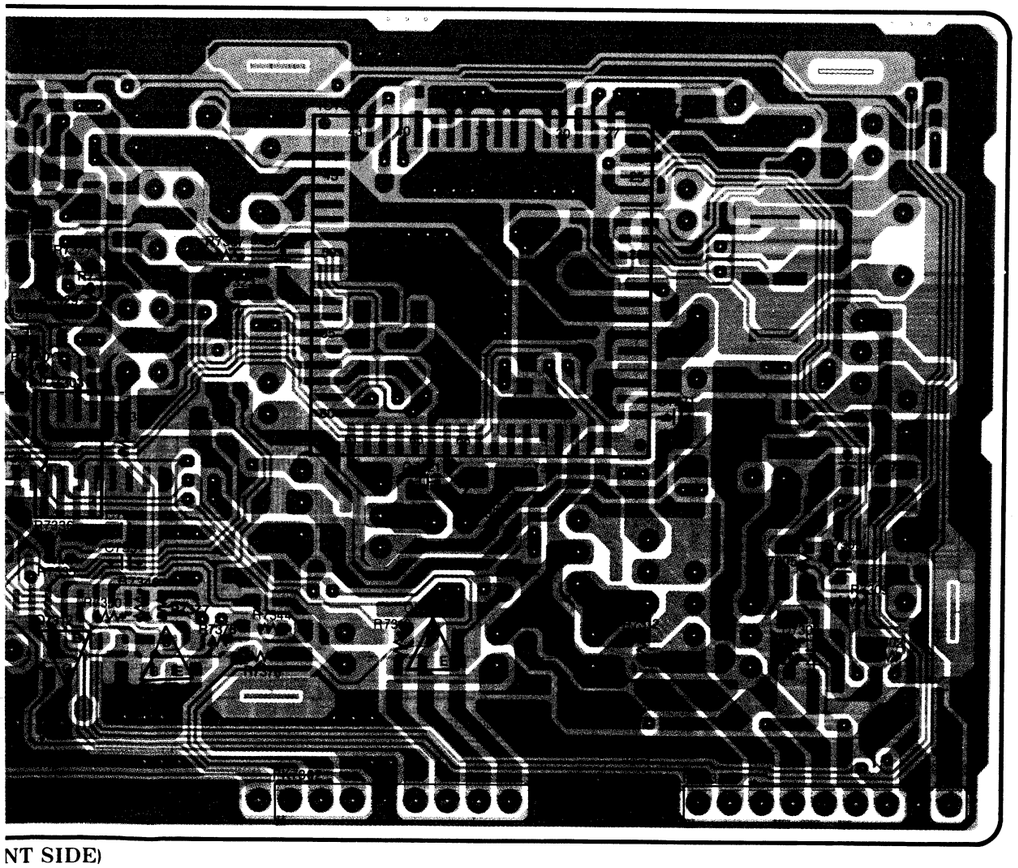
1 2 3

(COMPONENT SIDE)

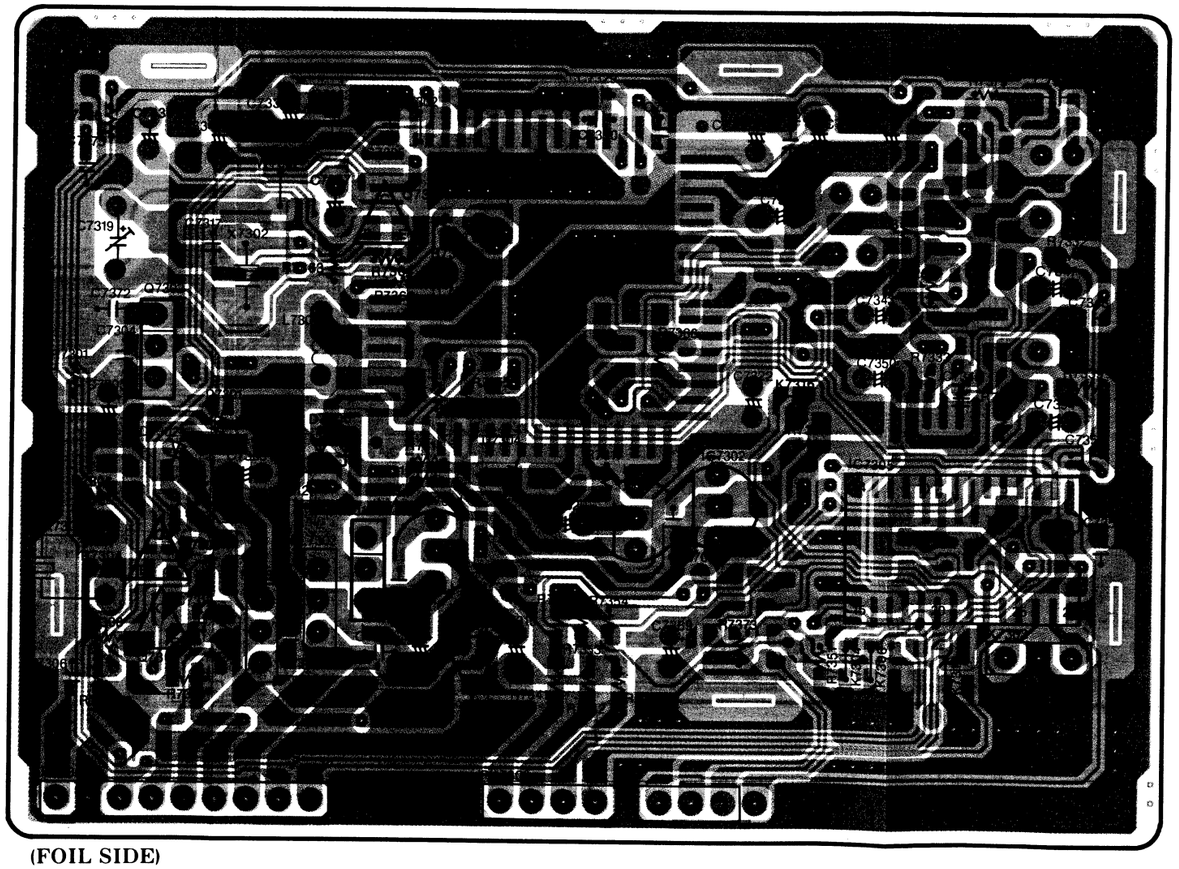
ECODER PACK C.B.A. (VEP07787L)

NICAM DECODER PACK C.B.A.	
Transistor	
Q7301	B-5
Q7302	B-5
Q7303	A-5
Q7304	A-5
Q7307	B-5
Q7310	A-2
Q7312	A-1
Q7313	A-1
Transistor & Resistor	
QR7301	A-6
QR7302	A-2
Integrated Circuit	
IC7301	C-2
IC7302	B-6
IC7303	B-1
IC7304	B-6
IC7305	B-7
IC7306	B-6
Test Point	
TL7301	B-6
TL7302	C-6
Adjustment	
C7319	B-5
Connector	
PK7301	A-3
PK7301	A-5
PK7302	A-2
PK7302	A-6

ADDRESS INFORMATION



NT SIDE)

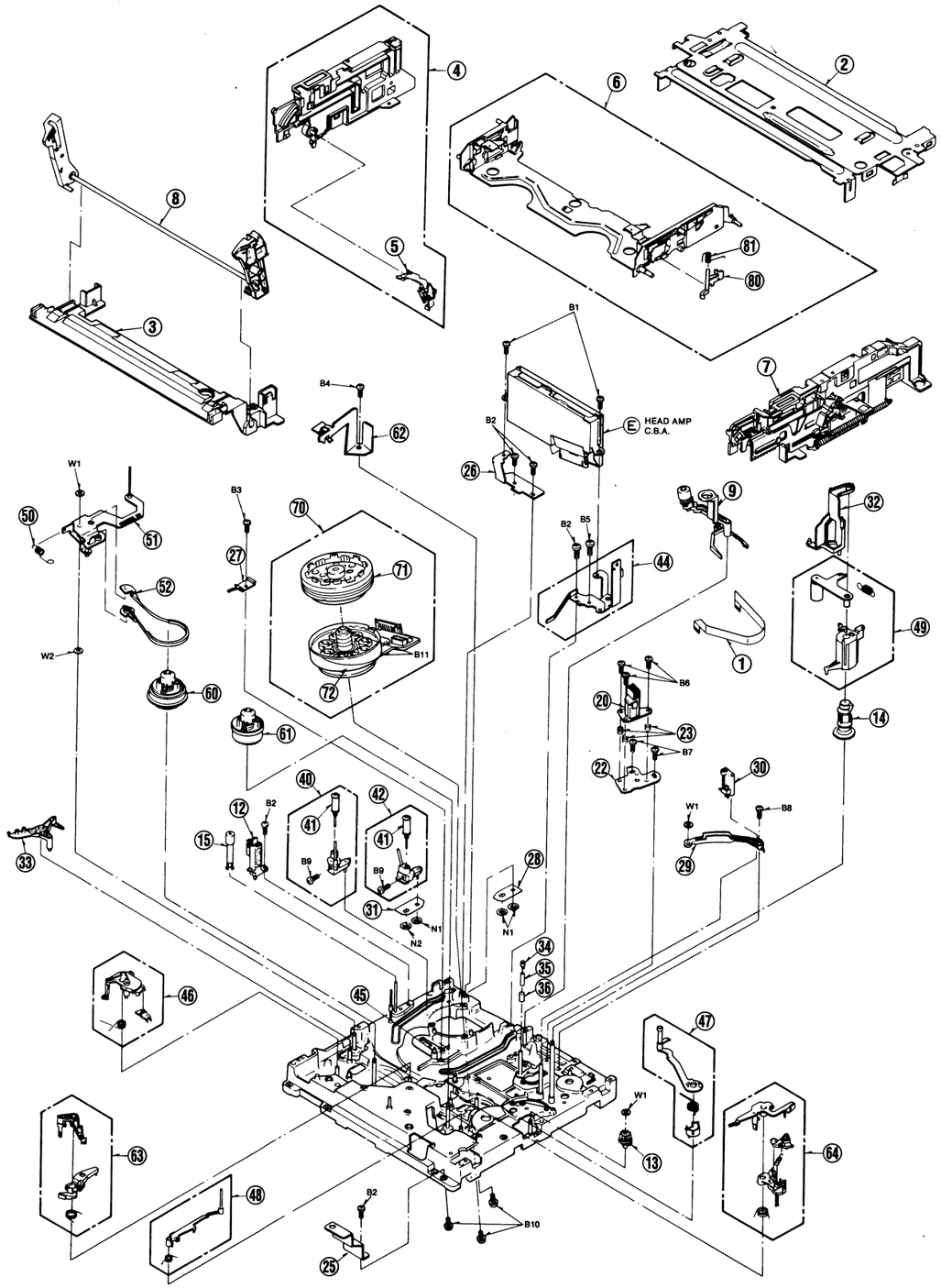


(FOIL SIDE)

SECTION 5
EXPLODED VIEWS & PARTS LIST

5-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST

❶ CHASSIS PARTS SECTION (1)



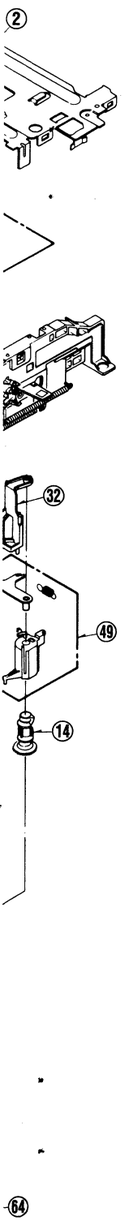
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1 (1)		VWJ0743	FLAT CARD CABLE (6P)	1	P4003-P1501
2 (1)		VMA8644	TOP PLATE	1	
3 (1)		VMA8787	CASSETTE GUIDE	1	
4 (1)		VXA4660	SIDE PLATE (L) UNIT	1	
5 (1)		VML2902	OPENER LEVER	1	
6 (1)		VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7 (1)		VXA4806	SIDE PLATE (R) UNIT	1	
8 (1)		VXP1339	MAIN SHAFT UNIT	1	
9 (1)		VXL2440	CLEANER ARM UNIT	1	
12 (1)		VBS0052	FE HEAD	1	
13 (1)		VDG0871	CARRIAGE CONNECTION GEAR	1	
14 (1)		VDG0886	PINCH CAM GEAR	1	
15 (1)		VXP1402	IMPEDANCE ROLLER UNIT	1	
20 (1)		VED0217	A/C HEAD (1) UNIT	1	
22 (1)		VMA8624	A/C HEAD BASE	1	
23 (1)		VMB2515	A/C HEAD SPRING	3	
25 (1)		VMA8761	MOUNT ANGLE	1	
26 (1)		VMA9158	HEAD AMP MOUNT ANGLE (L)	1	
27 (1)		VMC0917	EARTH SPRING	1	
28 (1)		VMA8874	INCLIND BASE HOLDER (S)	1	
29 (1)		VMD2078	P5 STOPPER BASE	1	
30 (1)		VXA4927	P5 POST STOPPER	1	
31 (1)		VMA8873	INCLIND BASE HOLDER (T)	1	
32 (1)		VMD2101	OPENER PIECE	1	
33 (1)		VML2776	TENSION SPRING ARM	1	
34 (1)		VMX1544	P4 UPPER LIMITER	1	
35 (1)		VMX2175	P4 SLEEVE	1	
36 (1)		VMX2176	P4 LOWER LIMITER	1	
40 (1)		VXA5245KIT	INCLINED BASE (S) UNIT	1	OR VXA4982KIT
41 (1)		VXP1415	ROLLER POST	2	
42 (1)		VXA5247KIT	INCLINED BASE (T) UNIT	1	OR VXA4984KIT
44 (1)		VXA4974	HEAD AMP MOUNT ANGLE (R) U.	1	
45 (1)		VMS5383	CASSETTE POSITION FIXTURE	1	
46 (1)		VXL2310	REVIEW ARM UNIT	1	
47 (1)		VXL2306	P5 ARM UNIT	1	
48 (1)		VXL2394	TAKE UP TENSION REGULATOR ARM UNIT	1	
49 (1)		VXL2246	PINCH ARM UNIT	1	
50 (1)		VMB2434	TENSION SPRING	1	
51 (1)		VXL2309	TENSION ARM (1) UNIT	1	
52 (1)		VXZ0310	TENSION BAND UNIT	1	
60 (1)		VXR0236	SUPPLY REEL TABLE UNIT	1	
61 (1)		VXR0237	TAKE UP REEL TABLE UNIT	1	
62 (1)		VXS0241	EARTH PLATE	1	
63 (1)		VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64 (1)		VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70 (1)		VEG1233	CYLINDER UNIT	1	
71 (1)		VXP1575	UPPER CYLINDER UNIT	1	
72 (1)		VSC4137	CYLINDER SHIELD PLATE	1	
80 (1)		VML2680	RELEASE LEVER	1	
81 (1)		VMB2013	RELEASE SPRING	1	
B1 (1)		VHD0773	SCREW	2	
B2 (1)		XTV26+6F	SCREW	5	
B3 (1)		XTV26+4F	SCREW	1	
B4 (1)		XTN3+8FFZ	SCREW	1	
B5 (1)		XTV26+10F	SCREW	1	
B6 (1)		VHD0762	SCREW	3	
B7 (1)		XTV26+6FZ	SCREW	2	
B8 (1)		XTV26+8F	SCREW	2	
B9 (1)		XQN2+AJ4	SCREW	2	
B10 (1)		VHD0342	SCREW	3	
B11 (1)		XYNV0029	SCREW	2	
N1 (1)		VHN0192	NUT	3	
N2 (1)		VHN0193	NUT	1	
W1 (1)		VMX2208	WASHER	3	
W2 (1)		XWGV26D5G	WASHER	1	

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100 (2)		VEK5927	CAPSTAN STATOR UNIT	1	
101 (2)		VBK0061	FG HEAD	1	
103 (2)		VMA8930	ROTOR STOPPER	1	
104 (2)		VMX1927	OIL SEAL	2	
105 (2)		VXD0140	HOUSING UNIT	1	
106 (2)		VXP1519	CAPSTAN ROTOR UNIT	1	
107 (2)		VXQ0297	THRUST SCREW UNIT	1	
108 (2)		VDG0913	MAIN CAM GEAR	1	
109 (2)		VDG0956	SUPPLY REEL GEAR	1	
110 (2)		VDG0957	TAKE UP REEL GEAR	1	
111 (2)		VDG0868	WORM WHEEL GEAR	1	
112 (2)		VDG0885	SUB CAM GEAR	1	
113 (2)		VDV0235	TIMING BELT	1	
120 (2)		VDG0866	WORM GEAR	1	
121 (2)		VEM0427	LOADING MOTOR (1) UNIT	1	
123 (2)		VMD1942	MOTOR BRACKET	1	
124 (2)		VMD2552	S-VHS SW ACTUATER	1	
126 (2)		VML2725	IDLER CONTROL LEVER	1	
127 (2)		VSS0365	MODE SW	1	
128 (2)		VXA5138	SS BRAKE BASE UNIT	1	
129 (2)		VXA4799	TENSION ROLLER UNIT	1	
140 (2)		VXL2378	IDLER ARM UNIT	1	
141 (2)		VXL2372	DIRECT LEVER UNIT	1	
142 (2)		VXL2299	SUPPLY LOADING ARM UNIT	1	
143 (2)		VXL2300	TAKE UP LOADING ARM UNIT	1	
144 (2)		VXL2307	MAIN LEVER UNIT	1	
145 (2)		VXP1409	CENTRE CLUTCH	1	
B102 (2)		XTV26+8F	SCREW	1	
B103 (2)		XTV26+6F	SCREW	3	
B104 (2)		VHD0753	SCREW	4	
B105 (2)		VHD0754	SCREW	1	
B106 (2)		XSB26+4FZ	SCREW	1	
W101 (2)		VMX2208	WASHER	4	

RTS LIST



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2.IMPORTANT SAFETY NOTICE
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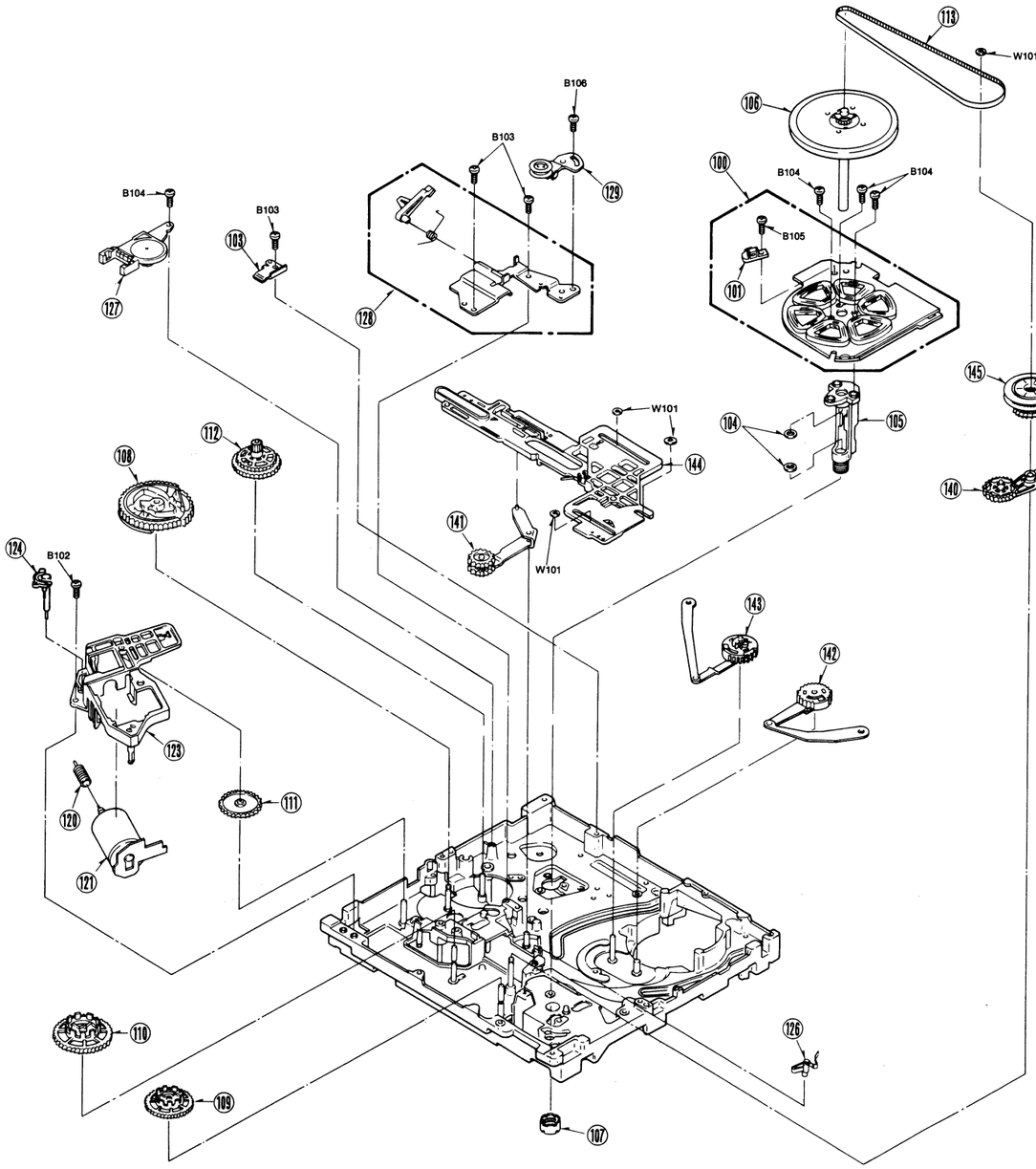
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1 (1)		VWJ0743	FLAT CARD CABLE (6P)	1	P4003-P1501
2 (1)		VMA8644	TOP PLATE	1	
3 (1)		VMA8787	CASSETTE GUIDE	1	
4 (1)		VXA4660	SIDE PLATE (L) UNIT	1	
5 (1)		VML2902	OPENER LEVER	1	
6 (1)		VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7 (1)		VXA4806	SIDE PLATE (R) UNIT	1	
8 (1)		VXP1339	MAIN SHAFT UNIT	1	
9 (1)		VXL2440	CLEANER ARM UNIT	1	
12 (1)		VBS0052	FE HEAD	1	
13 (1)		VDG0871	CARRIAGE CONNECTION GEAR	1	
14 (1)		VDG0886	PINCH CAM GEAR	1	
15 (1)		VXP1402	IMPEDANCE ROLLER UNIT	1	
20 (1)		VED0217	A/C HEAD (1) UNIT	1	
22 (1)		VMA8624	A/C HEAD BASE	1	
23 (1)		VMB2515	A/C HEAD SPRING	3	
25 (1)		VMA8761	MOUNT ANGLE	1	
26 (1)		VMA9158	HEAD AMP MOUNT ANGLE (L)	1	
27 (1)		VMC0917	EARTH SPRING	1	
28 (1)		VMA8874	INCLIND BASE HOLDER (S)	1	
29 (1)		VMD2078	P5 STOPPER BASE	1	
30 (1)		VXA4927	P5 POST STOPPER	1	
31 (1)		VMA8873	INCLIND BASE HOLDER (T)	1	
32 (1)		VMD2101	OPENER PIECE	1	
33 (1)		VML2776	TENSION SPRING ARM	1	
34 (1)		VMX1544	P4 UPPER LIMITER	1	
35 (1)		VMX2175	P4 SLEEVE	1	
36 (1)		VMX2176	P4 LOWER LIMITER	1	
40 (1)		VXA5245KIT	INCLINED BASE (S) UNIT	1	OR VXA4982KIT
41 (1)		VXP1415	ROLLER POST	2	
42 (1)		VXA5247KIT	INCLINED BASE (T) UNIT	1	OR VXA4984KIT
44 (1)		VXA4974	HEAD AMP MOUNT ANGLE (R) U.	1	
45 (1)		VMS5383	CASSETTE POSITION FIXTURE	1	
46 (1)		VXL2310	REVIEW ARM UNIT	1	
47 (1)		VXL2306	P5 ARM UNIT	1	
48 (1)		VXL2394	TAKE UP TENSION REGULATOR ARM UNIT	1	
49 (1)		VXL2246	PINCH ARM UNIT	1	
50 (1)		VMB2434	TENSION SPRING	1	
51 (1)		VXL2309	TENSION ARM (1) UNIT	1	
52 (1)		VXZ0310	TENSION BAND UNIT	1	
60 (1)		VXR0236	SUPPLY REEL TABLE UNIT	1	
61 (1)		VXR0237	TAKE UP REEL TABLE UNIT	1	
62 (1)		VXS0241	EARTH PLATE	1	
63 (1)		VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64 (1)		VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70 (1)		VEG1233	CYLINDER UNIT	1	
71 (1)		VXP1575	UPPER CYLINDER UNIT	1	
72 (1)		VSC4137	CYLINDER SHIELD PLATE	1	
80 (1)		VML2680	RELEASE LEVER	1	
81 (1)		VMB2013	RELEASE SPRING	1	
B1 (1)		VHD0773	SCREW	2	
B2 (1)		XTV26+6F	SCREW	5	
B3 (1)		XTV26+4F	SCREW	1	
B4 (1)		XTN3+8FFZ	SCREW	1	
B5 (1)		XTV26+10F	SCREW	1	
B6 (1)		VHD0762	SCREW	3	
B7 (1)		XTV26+6FZ	SCREW	2	
B8 (1)		XTV26+8F	SCREW	2	
B9 (1)		XQN2+AJ4	SCREW	2	
B10 (1)		VHD0342	SCREW	3	
B11 (1)		XYNV0029	SCREW	2	
N1 (1)		VHN0192	NUT	3	
N2 (1)		VHN0193	NUT	1	
W1 (1)		VMX2208	WASHER	3	
W2 (1)		XWGV26D5G	WASHER	1	

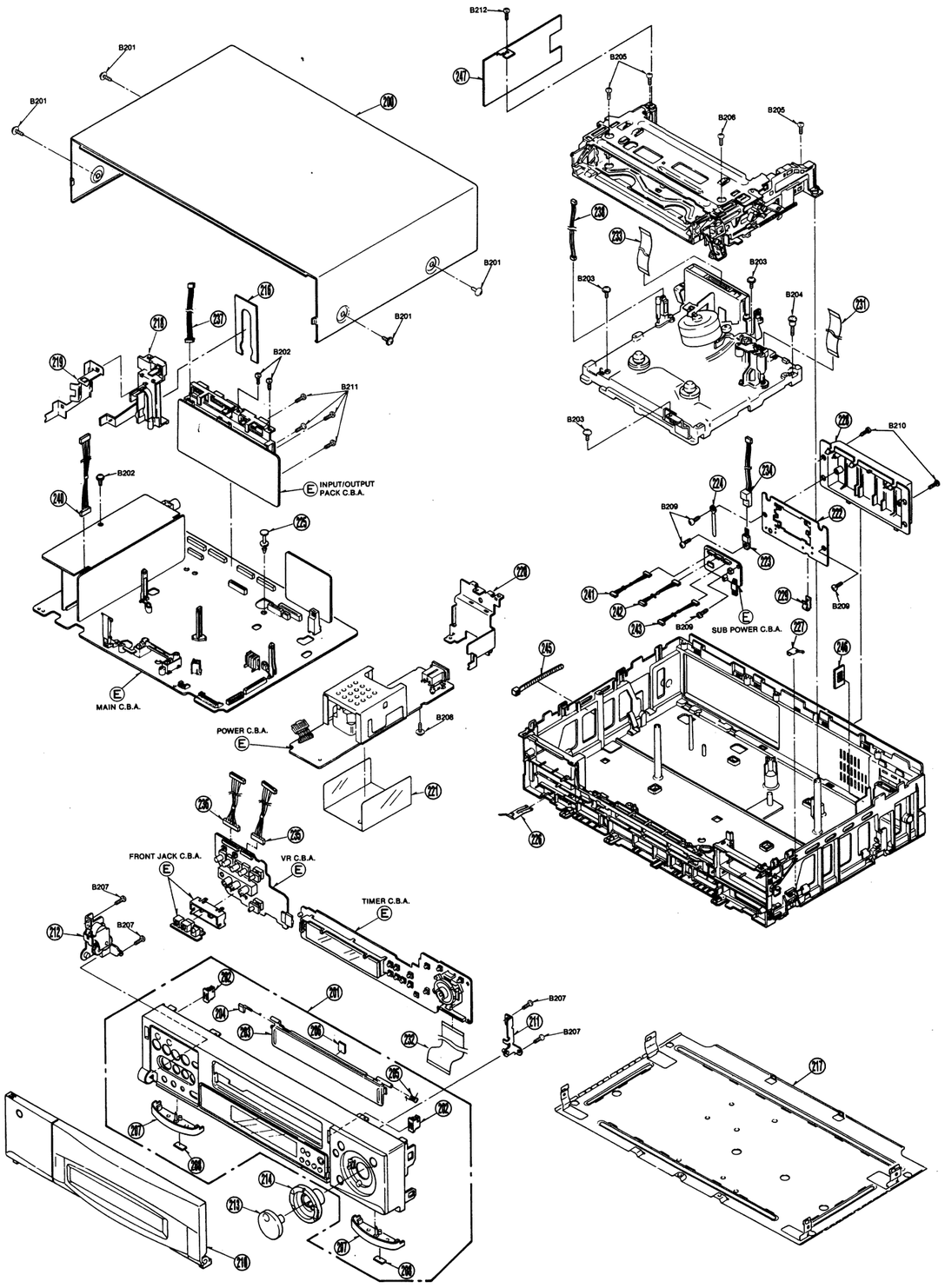
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100 (2)		VEK5927	CAPSTAN STATOR UNIT	1	
101 (2)		VBK0061	FG HEAD	1	
103 (2)		VMA8930	ROTOR STOPPER	1	
104 (2)		VMX1927	OIL SEAL	2	
105 (2)		VXD0140	HOUSING UNIT	1	
106 (2)		VXP1519	CAPSTAN ROTOR UNIT	1	
107 (2)		VXQ0297	THRUST SCREW UNIT	1	
108 (2)		VDG0913	MAIN CAM GEAR	1	
109 (2)		VDG0956	SUPPLY REEL GEAR	1	
110 (2)		VDG0957	TAKE UP REEL GEAR	1	
111 (2)		VDG0868	WORM WHEEL GEAR	1	
112 (2)		VDG0885	SUB CAM GEAR	1	
113 (2)		VDV0235	TIMING BELT	1	
120 (2)		VDG0866	WORM GEAR	1	
121 (2)		VEM0427	LOADING MOTOR (1) UNIT	1	
123 (2)		VMD1942	MOTOR BRACKET	1	
124 (2)		VMD2552	S-VHS SW ACTUATER	1	
126 (2)		VML2725	IDLER CONTROL LEVER	1	
127 (2)		VSS0365	MODE SW	1	
128 (2)		VXA5138	SS BRAKE BASE UNIT	1	
129 (2)		VXA4799	TENSION ROLLER UNIT	1	
140 (2)		VXL2378	IDLER ARM UNIT	1	
141 (2)		VXL2372	DIRECT LEVER UNIT	1	
142 (2)		VXL2299	SUPPLY LOADING ARM UNIT	1	
143 (2)		VXL2300	TAKE UP LOADING ARM UNIT	1	
144 (2)		VXL2307	MAIN LEVER UNIT	1	
145 (2)		VXP1409	CENTRE CLUTCH	1	
B102 (2)		XTV26+8F	SCREW	1	
B103 (2)		XTV26+6F	SCREW	3	
B104 (2)		VHD0753	SCREW	4	
B105 (2)		VHD0754	SCREW	1	
B106 (2)		XSB26+4FZ	SCREW	1	
W101 (2)		VMX2208	WASHER	4	

❷ CHASSIS PARTS SECTION (2)



❸ CASING PARTS SECTION



5—4

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
200 (3)		VGM1150	TOP PANEL	1	
201 (3)		VYP6154	FRONT PANEL (1) UNIT	1	
202 (3)		VGQ2216	DOOR MAGNET	2	
203 (3)		VKF2551	BLINDER PANEL	1	
204 (3)		VDK0148	BLINDER CAM.	1	
205 (3)		VMB2521	BLINDER SPRING	1	
206 (3)		VMT0502	BLINDER CUSHION	1	
207 (3)		VKA0197	LEG	1	
208 (3)		VKA0122	FOOT	2	
210 (3)		VYF2316	DOOR PANEL UNIT	1	
211 (3)		VXA5429	DOOR ANGLE (R) UNIT	1	
212 (3)		VXA5431	DOOR ANGLE (L) UNIT	1	
213 (3)		VGU6966	JOG DIAL	1	
214 (3)		VGU6967	SHUTTLE RING	1	
216 (3)		VGH3832	ANTENNA PLATE	1	
217 (3)		VKU0412	BOTTOM PLATE	1	
218 (3)		VJH0832	ANTENNA JACK PLATE	1	
219 (3)		VMC1213	ANTENNA EARTH SPRING	1	
220 (3)		VMP4717	AC PLATE	1	
221 (3)		VMZ2394	POWER BARRIER	1	
222 (3)		VSC4467	HEAT SINK	1	
223 (3)		2SB1370YD01E	POWER TRANSISTOR	1	
224 (3)		VJR3	CLAMPER	1	
225 (3)		VMX2233	C.B.A. SPACER	1	
226 (3)		VMC1062	JACK EARTH SPRING	1	
227 (3)		VMC1065	POWER EARTH SPRING	1	
228 (3)		VKF2371	REAR COVER	1	
229 (3)		VMC0357	TR. HOLDER SPRING	1	
231 (3)		VWJ0904	FLAT CARD CABLE (15P)	1	P2004-P1507
232 (3)		VWJ0954	FLAT CARD CABLE (32P)	1	P3003-P7501
233 (3)		VWJ0956	FLAT CARD CABLE (20P)	1	P3001-P501
234 (3)		VEE8564	WIRE CABLE	1	P2003-POWER TR.
235 (3)		VEE9371	WIRE CABLE	1	P3902-P6502
236 (3)		VEE9372	WIRE CABLE	1	P4001-P6503
237 (3)		VEE9373	WIRE CABLE	1	P6002-P3901
238 (3)		VEE9374	WIRE CABLE	1	P4002-P1509
240 (3)		VEE9376	WIRE CABLE	1	P6504-P301
241 (3)		VEE9791	WIRE CABLE	1	P1203-P2002
242 (3)		VEE9792	WIRE CABLE	1	P1202-P2902
243 (3)		VEE9793	WIRE CABLE	1	P1201-P302
245 (3)		VJF0215	BAIND	1	
246 (3)		VJF0977	WIRE LOCK	1	
247 (3)		VMZ2615	BARRIER	1	
B201 (3)		XTW3+10TFZ	SCREW	4	
B202 (3)		VHD0773	SCREW	3	
B203 (3)		VHD0168	SCREW	3	
B204 (3)		VHD0874	SCREW	1	
B205 (3)		XTV26+8FR	SCREW	3	
B206 (3)		XTV26+10F	SCREW	1	
B207 (3)		XTN2+5GFZ	SCREW	4	
B208 (3)		VHD0418	SCREW	1	
B209 (3)		XTV3+8J	SCREW	4	
B210 (3)		XTV3+12JFZ	SCREW	2	
B211 (3)		XTV3+8GFZ	SCREW	4	
B212 (3)		XTB26+6G	SCREW	1	

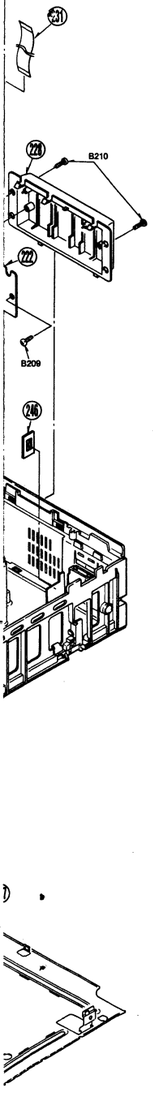
5—5

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
300 (4)		VQT6438	OPERATING INSTRUCTIONS	1	<!>
			(FRENCH)		
301 (4)		VEQ1678	REMOTE CONTROLLER	1	
303 (4)		VJA0783	AV 21PIN CABLE	1	
304 (4)		VJA0947	DIN RF CABLE	1	
305 (4)		VJA0665	AC CORD	1	<!>
306 (4)		VJA0231	AUDIO CABLE	1	
307 (4)		VJA0658	S-VIDEO 4P CABLE	1	
308 (4)		VJA0787	EDIT 5P CABLE	1	
309 (4)		VPN3773	ACCESSORIES PAD	1	
310 (4)		VPK0834	ACCESSORIES PAKING	1	
311 (4)		VPN4188	CUSHION (R)	1	
312 (4)		VPN4189	CUSHION (L)	1	
313 (4)		VPN4465	UPPER PAD	1	
315 (4)		VPG8051	PACKING	1	
			SERVICE FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE(PAL)	1	
		VFK0335	RETAINING RING REMOVER	1	
			(3mm/4mm)		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK27	HEAD CLEANING STICK	1	
		VFK1024	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	
		VFK0680	WHITE GREASE	1	
		VFK0851	CENTRE FIXING TOOL	1	
		VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	
		VFK1139	20P EXTENSION CABLE	1	
		VFK0678	18P EXTENSION CABLE	1	
		VFK0917	11P EXTENSION CABLE	1	
		VFK0918	17P EXTENSION CABLE	1	

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

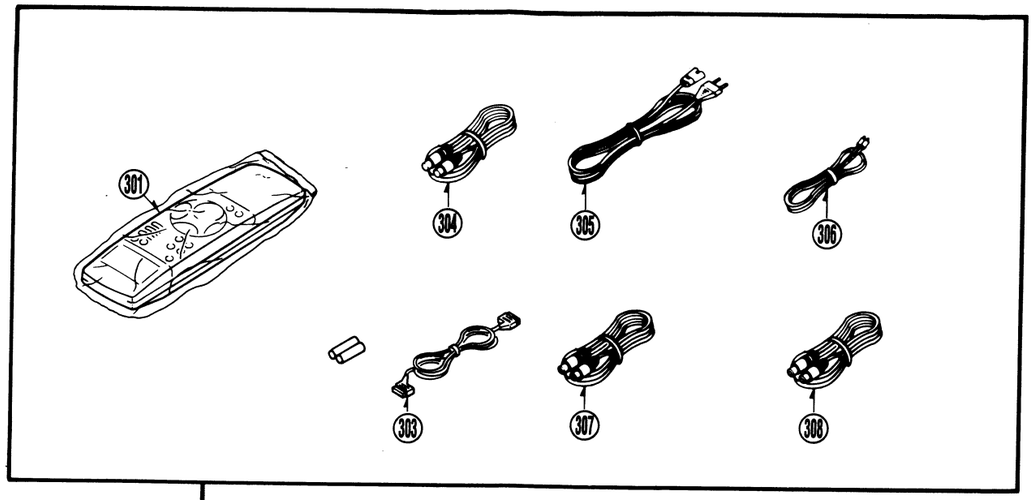
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
200 (3)		VGM1150	TOP PANEL	1	
201 (3)		VYP6154	FRONT PANEL (1) UNIT	1	
202 (3)		VGQ2216	DOOR MAGNET	2	
203 (3)		VKF2551	BLINDER PANEL	1	
204 (3)		VDK0148	BLINDER CAM.	1	
205 (3)		VMB2521	BLINDER SPRING	1	
206 (3)		VMT0502	BLINDER CUSHION	1	
207 (3)		VKA0197	LEG	1	
208 (3)		VKA0122	FOOT	2	
210 (3)		VYF2316	DOOR PANEL UNIT	1	
211 (3)		VXA5429	DOOR ANGLE (R) UNIT	1	
212 (3)		VXA5431	DOOR ANGLE (L) UNIT	1	
213 (3)		VGU6966	JOG DIAL	1	
214 (3)		VGU6967	SHUTTLE RING	1	
216 (3)		VGH3832	ANTENNA PLATE	1	
217 (3)		VKU0412	BOTTOM PLATE	1	
218 (3)		VJH0832	ANTENNA JACK PLATE	1	
219 (3)		VMC1213	ANTENNA EARTH SPRING	1	
220 (3)		VMP4717	AC PLATE	1	
221 (3)		VMZ2394	POWER BARRIER	1	
222 (3)		VSC4467	HEAT SINK	1	
223 (3)		2SB1370YD01E	POWER TRANSISTOR	1	
224 (3)		VJR3	CLAMPER	1	
225 (3)		VMX2233	C.B.A. SPACER	1	
226 (3)		VMC1062	JACK EARTH SPRING	1	
227 (3)		VMC1065	POWER EARTH SPRING	1	
228 (3)		VKF2371	REAR COVER	1	
229 (3)		VMC0357	TR. HOLDER SPRING	1	
231 (3)		VWJ0904	FLAT CARD CABLE (15P)	1	P2004-P1507
232 (3)		VWJ0954	FLAT CARD CABLE (32P)	1	P3003-P7501
233 (3)		VWJ0956	FLAT CARD CABLE (20P)	1	P3001-P501
234 (3)		VEE8564	WIRE CABLE	1	P2003-POWER TR.
235 (3)		VEE9371	WIRE CABLE	1	P3902-P6502
236 (3)		VEE9372	WIRE CABLE	1	P4001-P6503
237 (3)		VEE9373	WIRE CABLE	1	P6002-P3901
238 (3)		VEE9374	WIRE CABLE	1	P4002-P1509
240 (3)		VEE9376	WIRE CABLE	1	P6504-P301
241 (3)		VEE9791	WIRE CABLE	1	P1203-P2002
242 (3)		VEE9792	WIRE CABLE	1	P1202-P2902
243 (3)		VEE9793	WIRE CABLE	1	P1201-P302
245 (3)		VJF0215	BAIND	1	
246 (3)		VJF0977	WIRE LOCK	1	
247 (3)		VMZ2615	BARRIER	1	
B201 (3)		XTW3+10TFZ	SCREW	4	
B202 (3)		VHD0773	SCREW	3	
B203 (3)		VHD0168	SCREW	3	
B204 (3)		VHD0874	SCREW	1	
B205 (3)		XTV26+8FR	SCREW	3	
B206 (3)		XTV26+10F	SCREW	1	
B207 (3)		XTN2+5GFZ	SCREW	4	
B208 (3)		VHD0418	SCREW	1	
B209 (3)		XTV3+8J	SCREW	4	
B210 (3)		XTV3+12JFZ	SCREW	2	
B211 (3)		XTV3+8GFZ	SCREW	4	
B212 (3)		XTB26+6G	SCREW	1	

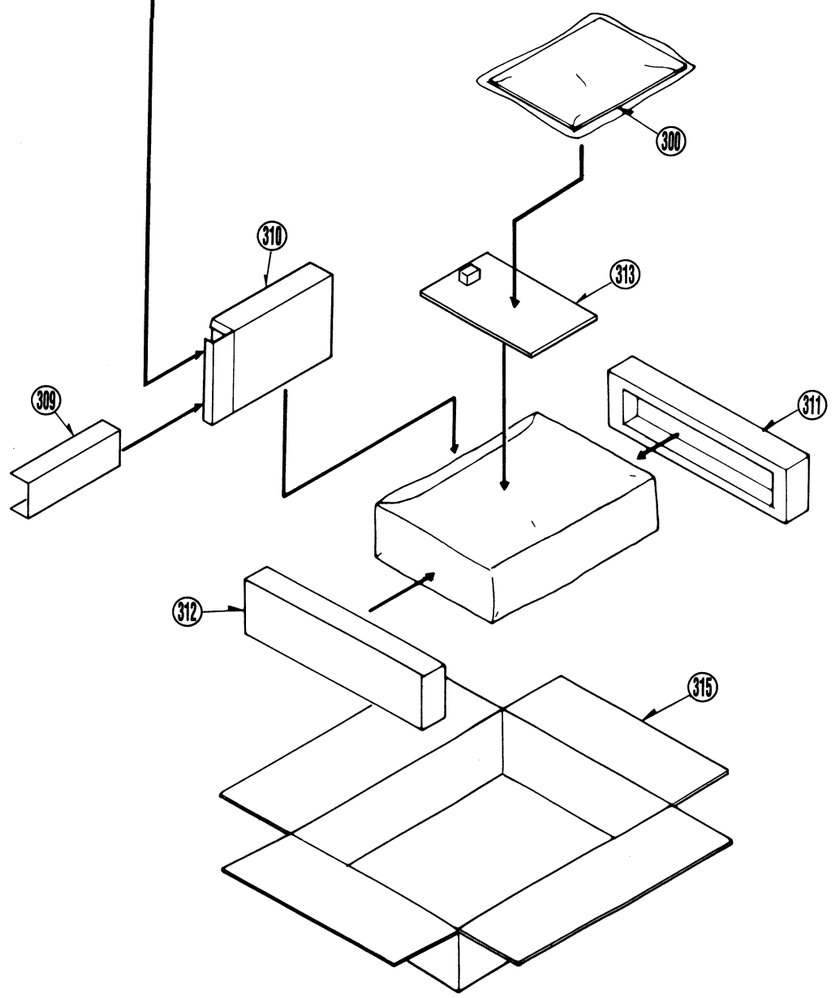


Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

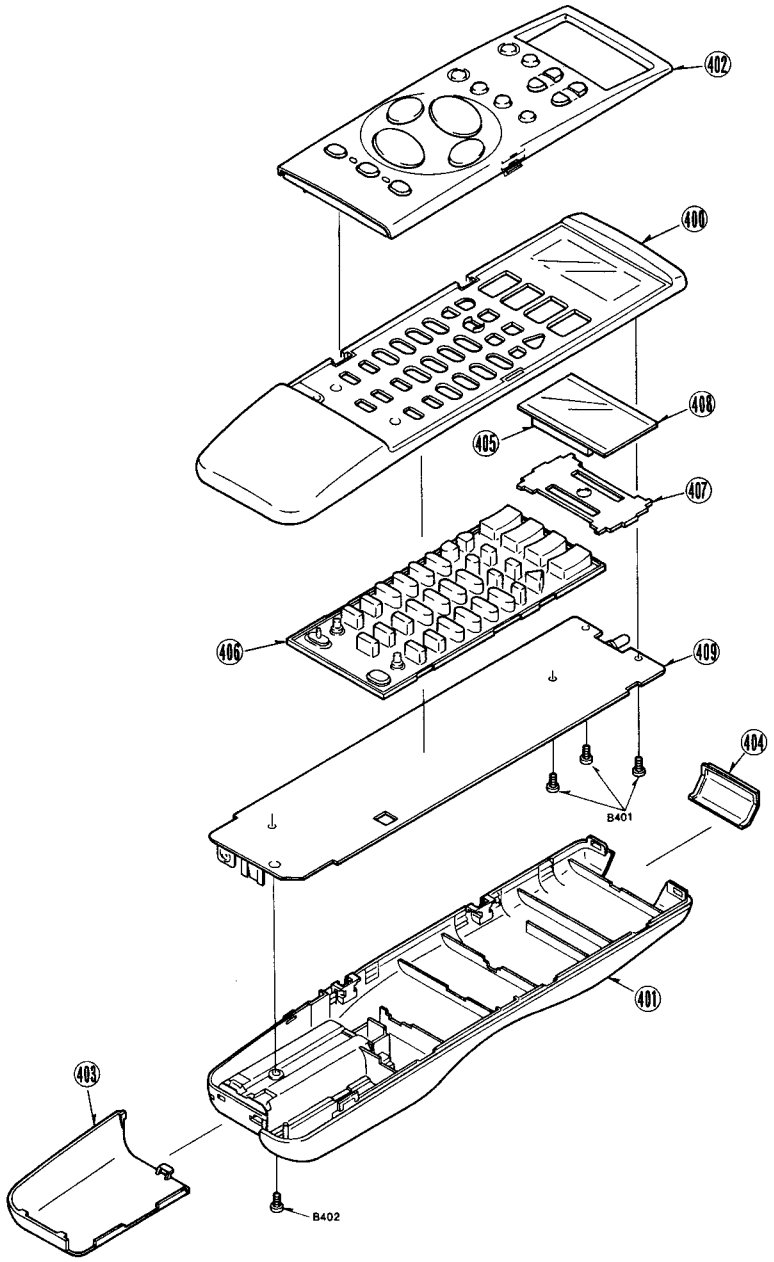
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
300 (4)		VQT6438	OPERATING INSTRUCTIONS	1	<!>
			(FRENCH)		
301 (4)		VEQ1678	REMOTE CONTROLLER	1	
303 (4)		VJA0783	AV 21PIN CABLE	1	
304 (4)		VJA0947	DIN RF CABLE	1	
305 (4)		VJA0665	AC CORD	1	<!>
306 (4)		VJA0231	AUDIO CABLE	1	
307 (4)		VJA0658	S-VIDEO 4P CABLE	1	
308 (4)		VJA0787	EDIT 5P CABLE	1	
309 (4)		VPN3773	ACCESSORIES PAD	1	
310 (4)		VPK0834	ACCESSORIES PAKING	1	
311 (4)		VPN4188	CUSHION (R)	1	
312 (4)		VPN4189	CUSHION (L)	1	
313 (4)		VPN4465	UPPER PAD	1	
315 (4)		VPG8051	PACKING	1	
			SERVICE FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE(PAL)	1	
		VFK0335	RETAINING RING REMOVER	1	
			(3mm/4mm)		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK27	HEAD CLEANING STICK	1	
		VFK1024	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	
		VFK0680	WHITE GREASE	1	
		VFK0851	CENTRE FIXING TOOL	1	
		VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	
		VFK1139	20P EXTENSION CABLE	1	
		VFK0678	18P EXTENSION CABLE	1	
		VFK0917	11P EXTENSION CABLE	1	
		VFK0918	17P EXTENSION CABLE	1	

❹ PACKING PARTS SECTION





❺ REMOTE CONTROLLER UNIT



Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
400 (5)		VYK6508	TOP COVER UNIT	1	
401 (5)		VYK5446	BOTTOM COVER UNIT	1	
402 (5)		VYK6505	DOOR PANEL UNIT	1	
403 (5)		VKF2152	BATTERY COVER	1	
404 (5)		VKW1802	IR WINDOW	1	
405 (5)		VSQ0830	CONDUCTIVE RUBBER	2	
406 (5)		VSP0878	RUBBER CONTACT	1	
407 (5)		VSQ0829	LCD SPACER	1	
408 (5)		VSL0308	LCD	1	
409 (5)		----------	REMOTE CONTROLLER C.B.A.	1	THE C.B.A. IS NOT
					SUPPLIED AS SPARE
					PART.
B401 (5)		XTB2+6G	SCREW	3	
B402 (5)		XTB2+8GFZ	SCREW	1	

5-2. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEPO3B73B	MAIN C.B.A.	1	(RTL)
			(Page:5-8)		INCLUDING THE
					Hi-Fi AUDIO PACK
					C.B.A.(VEPO4447PR),
					NICAM DECODER PACK
					C.B.A.(VEPO7787L),
					TV DEMODULATOR PACK
					C.B.A.(VEPO7797D).
		VEPO4447PR	Hi-Fi AUDIO PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEPO3B73B).
		VEPO7787L	NICAM DECODER PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEPO3B73B).
		VEPO7797D	TV DEMODULATOR PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEPO3B73B).
		VEPO3B90A	LUMINANCE & CHROMINANCE	1	(RTL)
			C.B.A. (Page:5-15)		
		VEPO3B75B	INPUT/OUTPUT C.B.A.	1	(RTL)
			(Page:5-17)		
		VEPO5176G	HEAD AMP C.B.A.	1	(RTL)
			(Page:5-18)		
		VEPO6A17B	VR C.B.A.	1	(RTL)
			(Page:5-19)		INCLUDING THE
					FRONT JACK C.B.A.
					(VEPO4531A).
		VEPO4531A	FRONT JACK C.B.A.	1	(RTL)
					INCLUDED IN VR
					C.B.A.(VEPO6A17B).
		VEPO8178A	TRANSCODER C.B.A.	1	(RTL)
			(Page:5-20)		
		VEPO7808B	TIMER C.B.A.	1	(RTL)
			(Page:5-21)		
		VEPO1639B	POWER C.B.A.	1	(RTL)<!>
			(Page:5-22)		
		VEPO1637A	SUB POWER C.B.A.	1	(RTL)<!>
			(Page:5-23)		
		VEXO231	CYLINDER DRIVE C.B.A.	1	(RTL)
			(Page:5-23)		
		----------	MOTOR C.B.A.	1	C.B.A. IS INCLUDED
			(Page:5-23)		IN LOADING MOTOR (1)
					UNIT(VEMO427).
		ENV57C01H6	TUNER	1	<!>
F1101		XBA2C16TH15	FUSE	1	<!>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEPO3B73B	MAIN C.B.A.		(RTL)
C0701		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0702		ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C0703-10		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	8	
C0711		ECUM1H080DPN	C.CAPACITOR CH 50V 8P	1	
C0712		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C0714		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C0715,16		ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C0717		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0718,19		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C0720-22		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C0723		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0727		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0728		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C0729		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0730		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0731		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C0733		ECEA1HKAR22	E.CAPACITOR 50V 0.22U	1	
C0734,35		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	2	
C0737		ECUM1H333KBM	C.CAPACITOR CH 50V 0.033U	1	
C0738		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C1001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1002		ECEA1CU470	E.CAPACITOR 16V 47U	1	
C1003		ECEA1CU101	E.CAPACITOR 16V 100U	1	
C1004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1005		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C1006		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1007		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1008		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C1009		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1013		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1018		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1020		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1021		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1022		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C1023		VCE0073	E.CAPACITOR	1	
C2004		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2005		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2006		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2007,08		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C2009,10		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2011		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C2012,13		ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	2	
C2014		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2015		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C2016		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2017		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2018		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2019		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2020		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2021		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2022,23		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C2027		ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C2028		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2029		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2030		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2501,02		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C2503		ECA1EM470	E.CAPACITOR 25V 47U	1	
C2504		ECEA1HKNR22	E.CAPACITOR 50V 0.22U	1	
C2505		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2507,08		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	2	
C2509		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2510		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2513-15		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	3	
C2516,17		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C2518,19		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	2	
C2521		ECA1CM221	E.CAPACITOR 16V 220U	1	
C2522		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C2523		ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C2524		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C3001,02		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3003		ECEA1HKA010	E.CAPACITOR 50V 1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3004	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3005	ECAOJM331	E.CAPACITOR 6.3V 330U	1	
C3006-08	ECEA1HKA010	E.CAPACITOR 50V 1U	3	
C3009	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3010	ECAOJM331	E.CAPACITOR 6.3V 330U	1	
C3011	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3012	ECAOJM331	E.CAPACITOR 6.3V 330U	1	
C3013	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3016	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3017	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3018	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3019	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3020-22	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3023	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3024	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3025	ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3026	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3027	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3029	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3030	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3032,33	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3034	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3035	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3036	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3037	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3039,40	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3041,42	ECUM1H100DCN	C.CAPACITOR CH 50V 10P	2	
C3043	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3044	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3045	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3046,47	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3048	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3049	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3050	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3052-56	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	5	
C3057	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3058	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3059	ECEAOJKA470	E.CAPACITOR 6.3V 47U	1	
C3060,61	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3062	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3063	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3064	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C3065	ECEAOJKA101	E.CAPACITOR 6.3V 100U	1	
C3066	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3067	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C3068	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3069	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3070	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3073,74	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3075,76	ECEA1AKA330	E.CAPACITOR 10V 33U	2	
C3077	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3079	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3080	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3081-84	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3085	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3086	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3087-89	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	3	
C3091	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3092	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3093	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4001	ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C4002	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C4003	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4004,05	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C4006,07	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4008	ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4009	ECQP1222JZ	P.CAPACITOR 100V 2200P	1	
C4010	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4011	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4012	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4013	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4022	ECQB1H102JZ	P.CAPACITOR 50V 1000P	1	
C4023	ECQB1H103JZ	P.CAPACITOR 50V 0.01U	1	
C4024	ECEA16M33	E.CAPACITOR 16V 33U	1	
C4025	ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4027	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4028	ECQB1H472JF	P.CAPACITOR 50V 4700P	1	
C4029	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4030	ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C4031	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4032	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4501	ECQB1H152JZ	F.CAPACITOR 50V 1500P	1	
C4502	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4503	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4504,05	ECEA1CU470	E.CAPACITOR 16V 47U	2	
C4506	ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4507	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4508	ECEA1EB24R7	E.CAPACITOR 25V 4.7U	1	
C4509	ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4510	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4511	ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C4512	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4513	ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4514	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4515	ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4517	ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4518	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4521	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4522	ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4528	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4530	ECEAOJU470	E.CAPACITOR 6.3V 47U	1	
C4533	ECEA1CU330	E.CAPACITOR 16V 33U	1	
C4537	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4538	ECEA1HUR47	E.CAPACITOR 50V 0.47U	1	
C4539	ECUX1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
C4541	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4545	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4551	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4552	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4556	ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4558	ECEA1EB24R7	E.CAPACITOR 25V 4.7U	1	
C4559	ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4560	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4561	ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C4562	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4563	ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4564	ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4565	ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4567	ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4568	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4572	ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4576	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4583	ECEA1CU330	E.CAPACITOR 16V 33U	1	
C4585,86	ECEA1AU101	E.CAPACITOR 10V 100U	2	
C4591	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4592	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4593	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4594,95	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C4596	ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4597	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4598	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4604	ECUM1H182JN	C.CAPACITOR CH 50V 1800P	1	
C4606	ECEAOJU470	E.CAPACITOR 6.3V 47U	1	
C4611	ECQB1H182JZ	F.CAPACITOR 50V 1800P	1	
C4613	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
C4616	ECUX1H102ZFV	C.CAPACITOR CH 50V 1000P	1	
C4617	ECEA10M22	E.CAPACITOR 10V 22U	1	
C4618	ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4621	ECEAOJU101	E.CAPACITOR 6.3V 100U	1	
C4629	ECQB1H562JF	P.CAPACITOR 50V 5600P	1	
C4636	ECUX1H471JV	C.CAPACITOR CH 50V 470P	1	
C4638	ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4652,53	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C6001	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6002	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C6004	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C6005	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C6006	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6007	ECEAOJKA470	E.CAPACITOR 6.3V 47U	1	
C6008	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C6009	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C6010	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6011	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6012,13	ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C6014,15	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6016	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6018	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6019-22	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	4	
C6023,24	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6026	ECA1EM470	E.CAPACITOR 25V 47U	1	
C6027	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6028,29	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C6030-32	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	3	
C6033,34	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C6035	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6036	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C6701	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6702-07	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	6	
C6708	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6709	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6710	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6711	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6712	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6713	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C6714	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6715	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C6716	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6717	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6718	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6719,20	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6721	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C6722	ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C6723	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6725	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C6726	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C6727	ECUM1H080DCN	C.CAPACITOR CH 50V 8P	1	
C6728-30	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C6731	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6732	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6733,34	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6735	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6736	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6737	ECEA1HKAZR2	E.CAPACITOR 50V 2.2U	1	
C6738,39	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C6740	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C6741-43	ECEA1HKA010	E.CAPACITOR 50V 1U	3	
C6745	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6746	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6748	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C6749	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6750	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7301,02	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C7303	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7304	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7305	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C7306	ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C7307	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7309-12	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C7313	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C7314	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7315	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C7317	ECUX1H090DCV	C.CAPACITOR CH 50V 90P	1	
C7319	ECRHA02OD54R	V.CAPACITOR 0.05U	1	
C7320	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7321	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7322	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C7323,24	ECUX1H391JCV	C.CAPACITOR CH 50V 390P	2	
C7325,26	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C7327	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7328	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7329,30	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	2	
C7331	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7332,33	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C7334	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7335	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7336	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7342	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7343	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C7344	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C7345	ECUM1H182KBM	C.CAPACITOR CH 50V 1800P	1	
C7346	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7347	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7348	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C7350	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C7351	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C7352	ECUM1H182KBM	C.CAPACITOR CH 50V 1800P	1	
C7353	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7354	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7355	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C7357	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7358	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C7359	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7367	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7369	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7370	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C7371,72	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C7374,75	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	2	
C7602	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7603	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C7604	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7605	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7606	ECA1CM471B	E.CAPACITOR 16V 470U	1	
C7607	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7609	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7610	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7614	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
D0701	MA8OWA	DIODE	1	
D0703	MA8OWK	DIODE	1	
D0705	MA3056M	DIODE	1	
D1001	MA4110H	DIODE	1	
D1002,03	1SS254	DIODE	2	
D1004	MA4051-M	DIODE	1	
D1005	1SS254	DIODE	1	
D1006	MA4051-L	DIODE	1	
D1007	1SS254	DIODE	1	
D1008	MA151WA	DIODE	1	
D1010,11	MA723VT	DIODE	2	
D2002-04	1SS254	DIODE	3	
D2007	1SS254	DIODE	1	
D2501	MA157	DIODE	1	
D2503	11ES1	DIODE	1	
D2504,05	1SS254	DIODE	2	
D3002	MA723VT	DIODE	1	
D3005,06	1SS254	DIODE	2	
D3007	MA151K	DIODE	1	
D3010	1SS254	DIODE	1	
D3012-16	1SS254	DIODE	5	
D4001	MA151K	DIODE	1	
D4002	1SS254	DIODE	1	
D4005	MA4075	DIODE	1	
D4006	MA151K	DIODE	1	
D4501-04	MA141K	DIODE	4	
D4601,02	MA141K	DIODE	2	
D6001	1SS254	DIODE	1	
D6003	1SS254	DIODE	1	
D6004	MA4075L	DIODE	1	
D6005	LN59LT.VT	LED	1	
D6011,12	1SS254	DIODE	2	
D6701,02	1SS254	DIODE	2	
D7301	MA3082-L	DIODE	1	
D7302	MA151K	DIODE	1	
D7303	MA151WK	DIODE	1	
D7304	MA717	DIODE	1	
D7306	MA151WK	DIODE	1	
D7601	MA4300M	DIODE	1	
DL6701	ELB4Y026	FILTER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
DU7601		ENV57C01H6	TUNER	1	<!>
FL3001		VLF0765	FILTER	1	
FL3002		VLF1120	FILTER	1	
FL7301,02		VLF0633	FILTER	2	
IC0701		TDA9814T/V3	IC	1	
IC2501		BA6871BS	IC	1	
IC3001		AN3581S	IC	1	
IC3003		M52376FP	IC	1	
IC3004		NJM2233BMA	IC	1	
IC3005		HA17431PA	IC	1	
IC3006		M52055FP	IC	1	
IC3007		AN3916	IC	1	
IC3008		UPC78L05J	IC	1	
IC4001		NJM4565DD	IC	1	
IC4501		XLH7773AKS	IC	1	
IC4601		BA7755AF	IC	1	
IC5001		MN6755486H4H	IC	1	
IC5002,03		ON1387T	IC	2	
IC5004		BA6887-V3	IC	1	
IC5701		MC74HC161AF2	IC	1	
IC6702		ST24C08CB1	IC	1	
IC6703		MC74HC164FL2	IC	1	
IC6704		SAA5281ZPM3	IC	1	
IC6705		TDA8501	IC	1	
IC6706		P83C528MAAA	IC	1	
IC6707		M52055FP	IC	1	
IC6708		MC74HC573AF2	IC	1	
IC6709		NJM2234MA	IC	1	
IC6710		M27C512MFNA	IC	1	
IC6711		NJM2235MA	IC	1	
IC6712		UPC393G2	IC	1	
IC7301		MSP3410-15	IC	1	
IC7302		PST7043	IC	1	
IC7303		M5238FP	IC	1	
IC7304		HA17431PA	IC	1	
IC7305		MN155402VZDB	IC	1	
IC7306		PST7043	IC	1	
K2		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	1	
K4		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	1	
K6		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	1	
K0702		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	1	
K0705		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	1	
K2001,02		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K3001,02		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K3005-07		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	3	
K6004		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K6703,04		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
K7304		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	1	
K7306		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	1	
K7316,17		ERJ3GEY0R00	M.RESISTOR CH1/16W 0	2	
K7603		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L0701		VLQ0163JR15	COIL 0.15UH	1	
L0702,03		VLQ0163JR47	COIL 0.47UH	2	
L0704-07		ELJFA151KB	COIL	4	
L0709		VLQEL05S100K	COIL 10UH	1	
L2001		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L2005		VLQ0569	COIL	1	
L2501		ELESE102KA	COIL 1000UH	1	
L3001		VLQ0599J680	COIL 68UH	1	
L3002		ELESE681KA	COIL 680UH	1	
L3003		VLQ0599J680	COIL 68UH	1	
L3004		VLQ0599J470	COIL 47UH	1	
L3005		VLQ0599J120	COIL 12UH	1	
L3006		VLQ0599J100	COIL 10UH	1	
L3007		VLQ0599J120	COIL 12UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L3009		VLQ0599J270	COIL 27UH	1	
L3010		VLQ0599J820	COIL 82UH	1	
L3012		VLQ0599J181	COIL 180UH	1	
L3013		VLQ0599J151	COIL 150UH	1	
L3017		VLQ0599J270	COIL 27UH	1	
L3018		VLQ0599J680	COIL 68UH	1	
L4001		VLQ0599J680	COIL 68UH	1	
L4002		ELESE471KA	COIL	1	
L4501,02		ELESE101KA	COIL 100UH	2	
L4601		VLQEL07F153J	COIL	1	
L6001-03		VLQ0599J680	COIL 68UH	3	
L6004		VLP0074	COIL	1	
L6006-12		VLP0145	COIL	7	
L6701		VLP0083	COIL	1	
L6702		VLQ0599J680	COIL 68UH	1	
L6703		ELESE3R3KA	COIL 3.3UH	1	
L6704		VLQ0599J680	COIL 68UH	1	
L6705		VLQ0599J390	COIL 39UH	1	
L6706-08		VLP0083	COIL	3	
L6709		VLQ0599J680	COIL 68UH	1	
L7301		ELEXH100JBV	COIL 10UH	1	
L7302		VLP0150	INDUCTOR	1	
L7601,02		VLQ0599J1R0	COIL 1UH	2	
L7603-05		VLQ0599J680	COIL 68UH	3	
L7608		VLQ0599J2R7	COIL 2.7UH	1	
LB3001		VLP0085	COIL	1	
P1001		VJS3631A011A	CONNECTOR (FEMALE) 11P	1	
P2002		VJP1232T	CONNECTOR (MALE) 5P	1	
P2003		VJP3483	CONNECTOR (MALE) 3P	1	
P2004		VJS3537A015G	CONNECTOR (FEMALE) 15P	1	
P3001		VJS3537A020G	CONNECTOR (FEMALE) 20P	1	
P3003		VJS3537A032G	CONNECTOR (FEMALE) 32P	1	
P4001		VJP1932T	CONNECTOR (MALE)	1	
P4002		TJS118601T	CONNECTOR	1	
P4003		VJS3675A006G	CONNECTOR (FEMALE) 6P	1	
P6001		VJS3821	CONNECTOR (FEMALE) 4P	1	
P6002		VJP1230T	CONNECTOR (MALE) 3P	1	
P6003		VJS3640A002	CONNECTOR (FEMALE) 2P	1	
PK0701		VJR0816A010W	CONNECTOR (MALE) 10P	1	
PK3001		VJP3043G014W	CONNECTOR (MALE) 14P	1	
PK3002		VJP3043A012W	CONNECTOR (MALE) 12P	1	
PK3003		VJP3043A013W	CONNECTOR (MALE) 13P	1	
PK4001-03		VJR0757B018T	CONNECTOR (MALE) 18P	3	
PK7301		VJR0777B009W	CONNECTOR (MALE) 9P	1	
PK7302		VJR0777B008W	CONNECTOR (MALE) 8P	1	
PP0701		VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP3001		VJP3043A012W	CONNECTOR (MALE) 12P	1	
PP3002		VJP3043A010W	CONNECTOR (MALE) 10P	1	
PP3003,04		VJP3043G011W	CONNECTOR (MALE) 11P	2	
Q0701		2SC2377	TRANSISTOR	1	
Q0702		MSD601-S	TRANSISTOR	1	
Q0703		MSB709	TRANSISTOR	1	
Q0704		2SD1994	TRANSISTOR	1	
Q0705		2SC3311	TRANSISTOR	1	
Q1002,03		2SD1996	TRANSISTOR	2	
Q1004		2SB1321A	TRANSISTOR	1	
Q1005		2SD1991A	TRANSISTOR	1	
Q1006		2SD602A	TRANSISTOR	1	
Q1007		2SD601A	TRANSISTOR	1	
Q1008,09		2SD1996	TRANSISTOR	2	
Q1010,11		2SD1328	TRANSISTOR	2	
Q3001		MSD602	TRANSISTOR	1	
Q3002		2SC2404	TRANSISTOR	1	
Q3003		MSD601	TRANSISTOR	1	
Q3004		2SC2404	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q3005,06	MSB709	TRANSISTOR	2	
Q3007,08	MSD601	TRANSISTOR	2	
Q3009,10	MSC2295	TRANSISTOR	2	
Q3011	MSD602	TRANSISTOR	1	
Q3012	MSB710	TRANSISTOR	1	
Q3013	MSD602	TRANSISTOR	1	
Q3014	MSB710	TRANSISTOR	1	
Q3015,16	MSD601	TRANSISTOR	2	
Q3017	MSB709	TRANSISTOR	1	
Q3018	MSD601	TRANSISTOR	1	
Q3019	2SD1996	TRANSISTOR	1	
Q3021	MSC2295	TRANSISTOR	1	
Q3022	MSB709	TRANSISTOR	1	
Q4002	2SD601A	TRANSISTOR	1	
Q4006	MSB710	TRANSISTOR	1	
Q4007,08	MSD601	TRANSISTOR	2	
Q4009	2SD602A-R	TRANSISTOR	1	
Q4010	MSB710	TRANSISTOR	1	
Q4011	2SD601A	TRANSISTOR	1	
Q4012	2SD1328	TRANSISTOR	1	
Q4501	2SD655TZ	TRANSISTOR	1	
Q4551	2SB561	TRANSISTOR	1	
Q4552	2SD1819A	TRANSISTOR	1	
Q4601,02	2SD1819A	TRANSISTOR	2	
Q6001	MSB709	TRANSISTOR	1	
Q6002,03	PN205LT-NCVT	PHOTO TRANSISTOR	2	
Q6004	MSD601	TRANSISTOR	1	
Q7301,02	2SD1996	TRANSISTOR	2	
Q7303,04	2SC2404	TRANSISTOR	2	
Q7307	2SB709A	TRANSISTOR	1	
Q7310	2SB709A	TRANSISTOR	1	
Q7312,13	2SD1328-S	TRANSISTOR	2	
QR0701	XN4213	TRANSISTOR-RESISTOR	1	
QR0702	XN4211	TRANSISTOR-RESISTOR	1	
QR0703	XN4213	TRANSISTOR-RESISTOR	1	
QR0704	MRN1404	TRANSISTOR-RESISTOR	1	
QR1001	MUN2111	TRANSISTOR-RESISTOR	1	
QR1002	MUN2213	TRANSISTOR-RESISTOR	1	
QR1003,04	MUN2211	TRANSISTOR-RESISTOR	2	
QR2001,02	MUN2213	TRANSISTOR-RESISTOR	2	
QR2003	MUN2112	TRANSISTOR-RESISTOR	1	
QR2004	UN2116	TRANSISTOR-RESISTOR	1	
QR3001	MUN2211	TRANSISTOR-RESISTOR	1	
QR3003	MUN2111	TRANSISTOR-RESISTOR	1	
QR3004	MUN2211	TRANSISTOR-RESISTOR	1	
QR3006-08	MUN2212	TRANSISTOR	3	
QR3009	MUN2111	TRANSISTOR-RESISTOR	1	
QR3011	MUN2212	TRANSISTOR	1	
QR3012	DTC363EK	TRANSISTOR-RESISTOR	1	
QR3013	MUN2211	TRANSISTOR-RESISTOR	1	
QR3015	MUN2212	TRANSISTOR	1	
QR3016,17	MUN2211	TRANSISTOR-RESISTOR	2	
QR3019	MUN2211	TRANSISTOR-RESISTOR	1	
QR3021	MUN2211	TRANSISTOR-RESISTOR	1	
QR3023	UN2213	TRANSISTOR-RESISTOR	1	
QR4001	MUN2211	TRANSISTOR-RESISTOR	1	
QR4002-04	MUN2213	TRANSISTOR-RESISTOR	3	
QR4005	MUN2212	TRANSISTOR	1	
QR4006	MUN2211	TRANSISTOR-RESISTOR	1	
QR4007	MUN2212	TRANSISTOR	1	
QR4008	MUN2211	TRANSISTOR-RESISTOR	1	
QR4508,09	UN5113	TRANSISTOR-RESISTOR	2	
QR4510	UN5212	TRANSISTOR-RESISTOR	1	
QR4602	UN5111	TRANSISTOR-RESISTOR	1	
QR4603	UN5213	TRANSISTOR-RESISTOR	1	
QR6002,03	MUN2211	TRANSISTOR-RESISTOR	2	
QR6006	MUN2212	TRANSISTOR	1	
QR6007	XN1211	TRANSISTOR-RESISTOR	1	
QR6701	UN2216	TRANSISTOR-RESISTOR	1	
QR6702	UN2215	TRANSISTOR-RESISTOR	1	
QR7301	MUN2213	TRANSISTOR-RESISTOR	1	
QR7302	MUN2112	TRANSISTOR-RESISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R0701	ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R0702	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R0703	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R0704	ERJ6GEYJ680	M.RESISTOR CH 1/10W 68	1	
R0705	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R0706,07	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R0708	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0709,10	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R0711	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0713	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0714	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R0715	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R0716	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R0717	ERJ3GEYG392	M.RESISTOR CH 1/16W 3.9K	1	
R0718	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0719	ERJ3GEYG182	M.RESISTOR CH 1/16W 1.8K	1	
R0720	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R0721,22	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	2	
R0723	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0724	ERJ8GEYJ151	M.RESISTOR CH 1/8W 150	1	
R0725	VRE0040E471	M.RESISTOR CH 1/10W 470	1	
R0726,27	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R0728	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R0729	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R0730,31	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	2	
R0732	ERJ8GEYJ102	M.RESISTOR CH 1/8W 1K	1	
R0733	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R0734	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R0735	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0736,37	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	2	
R0738	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0740	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0741	ERJ3GEYG182	M.RESISTOR CH 1/16W 1.8K	1	
R0742	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R0743	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R0744	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0748	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R0749	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R0750	ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	1	
R0751	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R0752	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R0753	ERDS2TJ684	C.RESISTOR 1/4W 680K	1	
R1001	ERDS1TJ272	C.RESISTOR 1/2W 2.7K	1	
R1002	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R1003	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R1004,05	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R1006	ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R1007	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R1008	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R1009	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R1010	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R1011	ERDS2TJ391	C.RESISTOR 1/4W 390	1	
R1013,14	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R1015	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R1016	ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R1017	ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R1018	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2001	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2002	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R2003-05	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	3	
R2006	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R2007	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2008	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2009	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2010-12	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	3	
R2013	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2014	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2015	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R2016	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2017	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R2018	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2019	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2020	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2501,02	ERDS2TJ560	C.RESISTOR 1/4W 56	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2503	ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2504	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2505	ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2506	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2507,08	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	2	
R2509,10	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	2	
R2511	ERDS2TJ560	C.RESISTOR 1/4W 56	1	
R2512	ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2514	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2515	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R2517	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2520	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2521	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2522	ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2523	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3001	ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3002	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3003	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3004	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3005	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R3006	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R3007	ERJ6GMYG911	M.RESISTOR CH 1/10W 910	1	
R3009	ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3010	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3011	ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3012,13	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R3014	ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3015	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3016	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R3017	ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R3018	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3019	ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R3021	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3022	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3023	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3024	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3025	ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3026,27	ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	2	
R3028	ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3029	ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R3030	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3031	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3032	ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R3033	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3034	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3035	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3036	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R3037	ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R3038	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3039	ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R3040	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3041	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3042,43	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R3044	ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R3045	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3046	ERJ6GMYG622	M.RESISTOR CH 1/10W 6.2K	1	
R3047	ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R3048	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R3049	ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R3050	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R3051	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R3052	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3053	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R3054	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3055	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3056	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3057	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3058	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3059	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3060	ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R3061	ERJ6GMYJ123	M.RESISTOR CH 1/10W 12K	1	
R3062	ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R3063	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3064,65	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R3066	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3068	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3069	ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3070	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3072	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3073	ERJ6GMYJ112	M.RESISTOR CH 1/10W 1.1K	1	
R3076	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3077	ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R3078	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3079	ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R3080	ERJ6GMYJ203	M.RESISTOR CH 1/10W 20K	1	
R3082	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3085	ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3086	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R3087	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3088	ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3089	ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3090	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3091	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3092	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3094	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R3095	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4001,02	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	2	
R4003	ERDS2TJ680	C.RESISTOR 1/4W 68	1	
R4004,05	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R4006	ERDS2TJ680	C.RESISTOR 1/4W 68	1	
R4007	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4009	ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R4010	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4011,12	ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	2	
R4013	ERG2SJ681	M.RESISTOR 2W 680	1	
R4014	ERG1SJ122	M.RESISTOR 1W 1.2K	1	
R4015	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
R4016,17	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4018	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R4019,20	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R4021	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R4022	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4023	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4024	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R4025	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R4026	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R4027	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R4038	ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4039	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4040	ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4041,42	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R4047	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4048	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R4049	ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R4050	ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4051	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4052	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4053	ERG1SJ680	M.RESISTOR 1W 68	1	
R4054	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R4501,02	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4503	ERJ3GEYG223	M.RESISTOR CH 1/16W 22K	1	
R4504,05	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4506,07	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4508	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4509	ERJ3GEYJ622	M.RESISTOR CH 1/16W 6.2K	1	
R4511	ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4512	VRE0071E163	M.RESISTOR CH 1/10W 16K	1	
R4513	ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R4514,15	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R4518,19	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4522	ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R4527	VRE0071E333	M.RESISTOR 33K	1	
R4528	VRE0071E153	M.RESISTOR 15K	1	
R4529	ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4535	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4539	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4541	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4542	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4543	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4551,52	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4553,54	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4558	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4561	ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4562	VRE0034E10C	M.RESISTOR CH 1/10W	1	
R4563	ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	1	
R4568,69	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4573	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4577	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4578	VRE0071E473	M.RESISTOR CH 1/10W 47K	1	
R4581	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4583	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4584	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4585	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4586	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4587,88	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4591	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4592	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4593	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4594	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4596	ERJ3GEYG473	M.RESISTOR CH 1/16W 47K	1	
R4597	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4598,99	ERJ3GEYG104	M.RESISTOR CH 1/16W 100K	2	
R4603	ERJ3GEYG183	M.RESISTOR CH 1/16W 18K	1	
R4606	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4610	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4611	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4612	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4613	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R4615	ERJ3GEYJ133	M.RESISTOR CH 1/16W 13K	1	
R4616	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4638	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4649	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4651	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4652	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4653	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R4654	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4655	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4656	ERJ3GEYG243	M.RESISTOR CH 1/16W 24K	1	
R4657	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4666	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4671	ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R6001	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6003	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6006	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6007	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6008	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6009	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6012	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6013	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6014	ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	1	
R6015,16	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6017,18	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6019,20	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6021	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6022	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6024-26	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6027,28	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
R6029,30	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6033	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6034	ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R6035,36	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6037,38	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R6040,41	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6043	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6044	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6046,47	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6048	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R6049	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R6050	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6051,52	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	2	
R6053	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R6054	ERJ6GMYG201	M.RESISTOR CH 1/10W 200	1	
R6055	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R6056,57	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R6058	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6059	ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6060	ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R6061	ERJ6GMYG913	M.RESISTOR CH 1/10W 91K	1	
R6062	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6063	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6064	ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R6065,66	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R6067	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R6068	ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6069	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6070	ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R6071	ERJ6GMYJ243	M.RESISTOR CH 1/10W 24K	1	
R6072	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6074	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6701	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6702	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6703-05	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	3	
R6706,07	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6708	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R6709	ERJ6GMYJ511	M.RESISTOR CH 1/10W 510	1	
R6710	ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6711	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6712	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6713	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R6715	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6716	ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R6718	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6723	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6724-26	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	3	
R6727	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6728	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6730	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R6731	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R6732,33	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	2	
R6734	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6735,36	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6737	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6738	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6739	ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R6740-47	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	8	
R6748	ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R6749	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R6750	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6751	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R7301	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7302	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R7303	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R7304	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R7305	ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
R7306	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R7308	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R7309,10	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R7311	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7312	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R7313,14	ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	2	
R7315	ERJ3GEYJ114	M.RESISTOR CH 1/16W 110K	1	
R7316	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7317	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7326	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7327-29	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R7330	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7332	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7333	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7334-36	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R7337	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7339	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7341-43	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	3	
R7344	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7346	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7350	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7351	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7352-56	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
R7357	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7362		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R7363		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7364		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R7365		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R7366		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7367		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7368		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7373		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7376,77		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R7378		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R7379		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7381		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7383		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7390		ERJ3GEYG243	M.RESISTOR CH 1/16W 24K	1	
R7602		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7605-07		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R7611		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7612,13		ERG2SJ331	M.RESISTOR 2W 330	2	
R7616,17		ERJ6GMYJ151	M.RESISTOR CH 1/10W 150	2	
R7618		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7619		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
RX6701		EXBF9E103J	RESISTOR-RESISTOR	1	
S6001		VES0709	SWITCH	1	
S6002		VST0176	S-VHS CASSETTE SW	1	
T0701		EQV5EC075A	TRANSFORMER	1	
T4001		EIQ7QF013Q	TRANSFORMER	1	
T4002		EIQ7QF012Q	TRANSFORMER	1	
VR0701,02		EVM7JSX30B14	V.RESISTOR 10K	2	
VR2001		EVNCYAA03B54	V.RESISTOR 50K	1	
VR3001-04		EVMF6SA00B14	V.RESISTOR 10K	4	
VR3005		EVMF6SA00B24	V.RESISTOR 20K	1	
VR3014		EVNCYAA03B54	V.RESISTOR 50K	1	
VR4001		EVNCYAA03B15	V.RESISTOR 100K	1	
VR4501		EVMECSA00B53	V.RESISTOR 5K	1	
VR4502		EVMEASA00BY4	V.RESISTOR	1	
VR4507		EVMEASA00BY4	V.RESISTOR	1	
VR4509		EVMECSA00BY3	V.RESISTOR	1	
VR4512		EVNCBAA00B52	V.RESISTOR 500	1	
VR4550		EVMECSA00B14	V.RESISTOR 10K	1	
VR4551,52		EVMEASA00B55	V.RESISTOR 500K	2	
X0702		EFCT5R5MS5	CRYSTAL OSCILLATOR	1	
X0703		EFCT5M65MW3	CRYSTAL OSCILLATOR	1	
X0704		VLF1178	FILTER	1	
X0706		VLF1078	FILTER	1	
X0707		VLF1060	FILTER	1	
X6001		VSX0583	CRYSTAL OSCILLATOR	1	
X6701		VSX0583	CRYSTAL OSCILLATOR	1	
X6702		VSX0353	CRYSTAL OSCILLATOR	1	
X7301		EFCA6504BF	CRYSTAL OSCILLATOR	1	
X7302		VSX0683	CRYSTAL OSCILLATOR	1	
X7303		EF0GC4004A4	CRYSTAL OSCILLATOR	1	
			MOSCELLANEOUS		
		VMD2330	LED HOLDER	1	FOR D6005
		VMD2329	PHOTO TRANSISTOR HOLDER	2	FOR Q6002,03
		VMD2328	REEL GUIDE	1	
		VSC3553	SHIELD COVER (MAIN)	1	FOR NICAM C.B.A.
		VSC3555	SHIELD COVER (BOTTOM)	1	FOR NICAM C.B.A.
		VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODU. C.B.A
	■	VEP03B90A	LUMINANCE & CHROMINANCE		(RTL)
			C.B.A.		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C301		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C302		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C303		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C304		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C305		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C306		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C307		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C308		ECUM1H050CCN	C.CAPACITOR CH 50V 5P	1	
C309		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C310		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C311		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C312		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C313		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C314		ECUM1H080DCN	C.CAPACITOR CH 50V 8P	1	
C316		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C317		ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C318		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C321,22		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C324		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C325,26		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C329		ECEA1HKAR33	E.CAPACITOR 50V 0.33U	1	
C331		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C332		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C335		ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C336		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C337		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C340		ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C341		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C342		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C344		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C345,46		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C348		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C351		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C353,54		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C801		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C802		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C803		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C804		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C805		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C806		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C807		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C808		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C809		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C810		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C812,13		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C814		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C815		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C816		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C817		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C818		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C819		ECQB1H332JZ	P.CAPACITOR 50V 3300P	1	
C820		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C821-23		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C824		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C825-27		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C828,29		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	2	
C830		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C831		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C832		ECQV1H154JM	P.CAPACITOR 50V 0.15U	1	
C833,34		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C835		ECQV1H563JM	P.CAPACITOR 50V 0.47U	1	
C836		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C837		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C838		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C839		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C840		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C841		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C842		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C843		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C844		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C845		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C846		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C847		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C848		ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C849	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C850	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C851-53	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C854	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C855	ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C856	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C857	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C858	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C859	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C860	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C861	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C862	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C863	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C864	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C865	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C866	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C867	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C868	ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C869	ECQB1H472JF	P.CAPACITOR 50V 4700P	1	
C870	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C873	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C874	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C875	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C876-78	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C879	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C881	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C883	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C887	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
D301	1SS283	DIODE	1	
D302	MA151K	DIODE	1	
D305-07	MA151K	DIODE	3	
D308	MA723VT	DIODE	1	
D801,02	MA151K	DIODE	2	
D804	MA151K	DIODE	1	
D807	MA151K	DIODE	1	
D808	MA151WK	DIODE	1	
D810	MA151K	DIODE	1	
D812,13	MA151WK	DIODE	2	
D814	MA151K	DIODE	1	
DL802	EFDVR645A45A	DELAY LINE	1	
DL803	VLD0147	DELAY LINE	1	
FL301	ELB4M022	FILTER	1	
FL302	VLF0639	FILTER	1	
FL303	VLF0786	FILTER	1	
FL304	ELB4R042	FILTER	1	
FL801	VLF1079	FILTER	1	
FL852	VLF0143	FILTER	1	
IC301	VCR0390	IC	1	
IC302	MN3859S	IC	1	
IC303	AN1358S	IC	1	
IC304	M52055FP	IC	1	
IC801	VCR0383	IC	1	
IC802	M52352FP	IC	1	
IC803	TA1225N	IC	1	
IC804	BA7207S	IC	1	
IC805	BA7025L	IC	1	
L302	VLQ0633J180	COIL 18UH	1	
L304	VLQ0633J270	COIL 27UH	1	
L306	VLQ0633J390	COIL 39UH	1	
L309	VLQ0633J680	COIL 68UH	1	
L311	VLQ0633J680	COIL 68UH	1	
L312	VLQ0633J330	COIL 33UH	1	
L314	VLQ0599J560	COIL 56UH	1	
L801,02	ELESE681KA	COIL 680UH	2	
L803	ELESE331KA	COIL 330UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L804-06	VLQ0633J680	COIL 68UH	3	
L807	VLQ0633J470	COIL 37UH	1	
L808	VLQ0633J120	COIL 12UH	1	
L809	VLQ0633J680	COIL 68UH	1	
L810	VLQ0633J150	COIL 15UH	1	
L811	VLQ0633J151	COIL 150UH	1	
L812	VLQ0633J270	COIL 27UH	1	
L813,14	VLQ0633J150	COIL 15UH	2	
L815,16	VLQ0633J680	COIL 68UH	2	
L817	VLQ0633J101	COIL 100UH	1	
L819	VLQ0633J680	COIL 68UH	1	
L821	VLQ0633J680	COIL 68UH	1	
L822,23	VLP0147	FILTER	2	
P301	VJP1246T	CONNECTOR (MALE) 6P	1	
P302	VJP1244T	CONNECTOR (MALE) 4P	1	
PS301	VJS3043F014W	CONNECTOR (FEMALE) 14P	1	
PS302	VJS3043B012W	CONNECTOR (FEMALE) 12P	1	
PS303	VJS3043B013W	CONNECTOR (FEMALE) 13P	1	
PS801	VJS3042B020W	CONNECTOR (FEMALE) 20P	1	
PS802	VJS3042F016W	CONNECTOR (FEMALE) 16P	1	
Q301	MSC2295	TRANSISTOR	1	
Q302	MSB709	TRANSISTOR	1	
Q303,04	MSC2295	TRANSISTOR	2	
Q305	MSD601	TRANSISTOR	1	
Q306	MSC2295	TRANSISTOR	1	
Q308	MSB709	TRANSISTOR	1	
Q309,10	MSD601	TRANSISTOR	2	
Q311	MSB709	TRANSISTOR	1	
Q312	MSC2295	TRANSISTOR	1	
Q803,04	MSC2295	TRANSISTOR	2	
QR301	MUN2211	TRANSISTOR-RESISTOR	1	
QR302	MUN2212	TRANSISTOR	1	
QR303	MUN2213	TRANSISTOR-RESISTOR	1	
QR304	MUN2211	TRANSISTOR-RESISTOR	1	
QR305	MUN2113	TRANSISTOR-RESISTOR	1	
QR306	MUN2211	TRANSISTOR-RESISTOR	1	
QR308	MUN2213	TRANSISTOR-RESISTOR	1	
QR309	MUN2211	TRANSISTOR-RESISTOR	1	
QR310	MUN2213	TRANSISTOR-RESISTOR	1	
QR311	MUN2113	TRANSISTOR-RESISTOR	1	
QR312	UN211D	TRANSISTOR-RESISTOR	1	
QR313,14	MUN2213	TRANSISTOR-RESISTOR	2	
QR315	MUN2113	TRANSISTOR-RESISTOR	1	
QR316	MUN2213	TRANSISTOR-RESISTOR	1	
QR320-23	MUN2213	TRANSISTOR-RESISTOR	4	
QR801,02	MUN2213	TRANSISTOR-RESISTOR	2	
QR803	MUN2212	TRANSISTOR	1	
QR804	MUN2211	TRANSISTOR-RESISTOR	1	
QR805	MUN2213	TRANSISTOR-RESISTOR	1	
QR806	MUN2211	TRANSISTOR-RESISTOR	1	
QR808	MUN2211	TRANSISTOR-RESISTOR	1	
R301	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R302	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R303	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R304	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R305	ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R306	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R307	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R308	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R309	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R312	ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R313	ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R314	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R315	ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R316	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R317		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R318		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R319		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R320		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R321		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R322		ERJ6GMYG242	M.RESISTOR CH 1/10W 2.4K	1	
R323		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R324		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R325		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R326		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R327		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R328		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R329		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R330		ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R331		ERJ6GMYJ362	M.RESISTOR CH 1/10W 3.6K	1	
R332		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R333		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R334		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R335		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R336		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R337		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R338,39		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R340		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R341		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R342		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R343		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R344		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R345		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R346		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R347		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R348		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R349		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R350		ERJ6GMYJ202	M.RESISTOR CH 1/10W 2K	1	
R351		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R352		ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R353		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R354		ERJ6GMYG753	M.RESISTOR CH 1/10W 75K	1	
R355		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R356		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R358		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R359		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R801		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R802		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R803		ERJ6GMYJ242	M.RESISTOR CH 1/10W 2.4K	1	
R804,05		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R807		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R808		ERJ6GMYJ154	M.RESISTOR CH 1/10W 150K	1	
R809		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R810,11		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R812		ERJ6GMYJ390	M.RESISTOR CH 1/10W 39	1	
R813		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R814		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R815		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R817		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R818		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R819,20		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R823,24		ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	2	
R825		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R826		ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R827		ERJ6GMYJ154	M.RESISTOR CH 1/10W 150K	1	
R828		ERJ6GMYJ204	M.RESISTOR CH 1/10W 200K	1	
R829		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R830		ERJ6GMYJ154	M.RESISTOR CH 1/10W 150K	1	
R831		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R832		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R833		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R834		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R835,36		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R837		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R838,39		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	2	
R840		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R842,43		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	2	
R844		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R847		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R848		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R849		ERJ6GMYK395	M.RESISTOR CH 1/10W 3.9M	1	
R850		ERJ6GMYJ302	M.RESISTOR CH 1/10W 3K	1	
R851		ERJ6GMYG203	M.RESISTOR CH 1/10W 20K	1	
R853,54		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R856		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R857		ERJ6GMYJ203	M.RESISTOR CH 1/10W 20K	1	
R858-60		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	3	
R863		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R864		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R865		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R866		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R867		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R869		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R886		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R887		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R888		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
T882		ELM7Q207A	COIL	1	
VR301		EVMEGSA00B23	V.RESISTOR 2K	1	
VR302		EVMEGSA00B13	V.RESISTOR 1K	1	
VR303		EVMEASA00B13	V.RESISTOR 1K	1	
VR304		EVMEGSA00B13	V.RESISTOR 1K	1	
VR305,06		EVNDCAA03B23	V.RESISTOR 2K	2	
VR801,02		EVMEASA00B23	V.RESISTOR 2K	2	
VR803		EVMEASA00B14	V.RESISTOR 10K	1	
VR804		EVNDCAA03B53	V.RESISTOR 5K	1	
VR805		EVNDCAA03B23	V.RESISTOR 2K	1	
VR806		EVNDCAA03B13	V.RESISTOR 1K	1	
VR807		EVNDCAA03B23	V.RESISTOR 2K	1	
VR808,09		EVMEASA00B24	V.RESISTOR 20K	2	
X801		VSX0406	CRYSTAL OSCILLATOR	1	
X802		VSX0066	CRYSTAL OSCILLATOR	1	
	■	VEP03B75B	INPUT/OUTPUT C.B.A.		(RTL)
C3901		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3902		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3905		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3917		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3918		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3919		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3920		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3921		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3932,33		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4901,02		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C4903		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4904		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4905		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C4906		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4907-14		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	8	
D3901		MA4056M	DIODE	1	
D3902		MA4130L	DIODE	1	
D3903		1SS254	DIODE	1	
D3904		MA151K	DIODE	1	
D3905		1SS254	DIODE	1	
D3906		MA151K	DIODE	1	
D3907		MA151WK	DIODE	1	
D3908		MA151WA	DIODE	1	
D4901		MA4056M	DIODE	1	
IC3901		MC14051BF	IC	1	
IC3906		BU12101-06	IC	1	
IC3907		AN1393S	IC	1	
IC3908		MC14052BFR	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC3909		MC14053BF	IC	1	
IC4901,02		MC14052BFR	IC	2	
IC4903,04		NJM4558M	IC	2	
JK1		VEJ1680	JACK	1	
JK3901,02		VJS1470	CONNECTOR (FEMALE)	2	
K3901		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
K3904		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
L3905		VLQ0599J680	COIL 68UH	1	
L4907		VLQ0599J680	COIL 68UH	1	
P3901		VJP1243T	CONNECTOR (MALE) 3P	1	
P3902		VJP3234B010	CONNECTOR (MALE) 10P	1	
PS3901,02		VJS3043F011W	CONNECTOR (FEMALE) 11P	2	
PS3903		VJS3043B010W	CONNECTOR (FEMALE) 10P	1	
PS3904		VJS3043B012W	CONNECTOR (FEMALE) 12P	1	
Q3904		2SD1996	TRANSISTOR	1	
Q3905		MSD601	TRANSISTOR	1	
Q3908		XN1501	TRANSISTOR-TRANSISTOR	1	
Q3909		MSB709	TRANSISTOR	1	
Q3910		MSD601	TRANSISTOR	1	
Q3911		MSB709	TRANSISTOR	1	
Q3912		MSD601	TRANSISTOR	1	
Q3914		MSD602	TRANSISTOR	1	
Q3915		XN4402	TRANSISTOR	1	
QR3901		MUN2111	TRANSISTOR-RESISTOR	1	
QR3902		MUN2213	TRANSISTOR-RESISTOR	1	
QR3903		XN1213	TRANSISTOR-TRANSISTOR	1	
QR3904		MUN2213	TRANSISTOR-RESISTOR	1	
QR3906		XN1211	TRANSISTOR-RESISTOR	1	
QR3907		MUN2213	TRANSISTOR-RESISTOR	1	
QR3908		UN2216	TRANSISTOR-RESISTOR	1	
R3911		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3912,13		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	2	
R3914		ERDS2TJ223	C.RESISTOR 1/4W 22K	1	
R3915-19		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	5	
R3920		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3921		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3922		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3923		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3924		ERJ6GMYJ123	M.RESISTOR CH 1/10W 12K	1	
R3925		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3926		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3928,29		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R3930		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3931		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R3932		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R3933		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3934		ERJ6GMYJ111	M.RESISTOR CH 1/10W 110	1	
R3935		ERJ6GMYJ121	M.RESISTOR CH 1/10W 120	1	
R3936		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3937		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R3938		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R3939		ERJ6GMYJ121	M.RESISTOR CH 1/10W 120	1	
R3940		ERJ6GMYJ111	M.RESISTOR CH 1/10W 110	1	
R3941		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3942		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3943		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R3944		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3945		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3946		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3947		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3948		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3949		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
R3950,51		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	2	
R3952		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3953-55		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	3	
R3960		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3961		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R3962		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R4901,02		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	2	
R4903		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4904-07		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	4	
R4908		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4909		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4911		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4912		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4914		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4915-18		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	4	
R4919		ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	1	
R4920		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R4921		ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	1	
R4922		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R4923		ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	1	
R4924		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R4925		ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	1	
R4926		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R4927,28		ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	2	
R4929-32		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	4	
S3901		VSS0513	SWITCH	1	
			MISCELLANEOUS		
		XTV3+8GFZ	SCREW	4	
	■	VEP05176G	HEAD AMP C.B.A.		(RTL)
C503		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C505-08		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C509		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C510,11		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C512		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C513		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C514		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C515,16		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C517,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C519,20		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C521		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C523-25		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C526		VCEAOJAC221	E.CAPACITOR 6.3V 220U	1	
C527		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C531		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C532		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C533,34		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	2	
C535		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C536		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C537		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C538,39		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C540		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C551		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C552-54		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C555		ECEAOJPK221	E.CAPACTIOR 6.3V 220U	1	
C556,57		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C559		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C560,61		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C562,63		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C564		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C565		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C566		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C567		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C569		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC501		AN3336SB	IC	1	
IC502		AN3370K	IC	1	
IC551		BA7743FS	IC	1	
K501		VLP0145	COIL	1	
K502		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
K503,04		VLP0145	COIL	2	
K505		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
K506		VLP0145	COIL	1	
K552		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
L501-03		VLQ0540K330	COIL 33UH	3	
L504		VLQ0540J5R6	COIL 5.6UH	1	
L551,52		VLQ0540K330	COIL 33UH	2	
P501		VJS3537B020G	CONNECTOR (FEMALE) 20P	1	
P502		VJS2603	CONNECTOR (FEMALE)	1	
Q501		MSB709	TRANSISTOR	1	
Q502		MSD601	TRANSISTOR	1	
QR501		MRN2404	TRANSISTOR-RESISTOR	1	
R501		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R502		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R503		ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R504		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R505		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R506		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R507		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R508		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R509-12		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	4	
R513		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R514		ERJ6GMYJ274	M.RESISTOR CH 1/10W 270K	1	
R517		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R518,19		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	2	
R520		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R521,22		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	2	
R523		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R524		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R525		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R526		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R551		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R552		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R553		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R554		ERJ6GMYJ243	M.RESISTOR CH 1/10W 24K	1	
R556		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R557		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R558		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R559,60		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R561		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R562		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R563		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R564		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R565		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R566		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R567		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R568		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R569		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R570		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
			MISCELLANEOUS		
		VSC3714	SHIELD COVER (TOP)	1	
		VSC3478	SHIELD COVER (MAIN)	1	
		VSC3715	SHIELD COVER (BOTTOM)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP06A17B	VR C.B.A.		(RTL)
C6501,02		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C6503,04		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6506		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C6507		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6508		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6509		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C6512		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6513		ECEA1EKS3R3	E.CAPACITOR 25V 3.3U	1	
C6514		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C6515		ECEA1AKA330	E.CAPACITOR 10V 33U	1	
D6501		HLMK-D300	DIODE	1	
D6502,03		HLMK-D500	DIODE	2	
D6504		HLMK-D300	DIODE	1	
D6505		HLMK-D200	DIODE	1	
D6506-10		1SS254	DIODE	5	
D6511		HLMK-D500	DIODE	1	
IC6501		VCR0172	IC	1	
J4801		VJJ0329	JACK	1	
J4802		VJJ0308	JACK	1	
J4803		VJJ0242	HEADPHONE JACK	1	
J6501		VEJ1341	JACK	1	
L6501,02		ELESE101KA	COIL 100UH	2	
L6503,04		ELESE221KA	COIL 220UH	2	
L6505,06		ELESE471KA	COIL 470UH	2	
LB4801		VLP0145	COIL	1	
P6501		VJP3405A013W	CONNECTOR (MALE) 13P	1	
P6502		VJP3234B010	CONNECTOR (MALE) 10P	1	
P6503		VJP1930T	CONNECTOR (MALE)	1	
P6504		VJP1246T	CONNECTOR (MALE) 6P	1	
PP6001,02		VJP3042A005W	CONNECTOR (MALE) 5P	2	
PS4801,02		VJS3042B005W	CONNECTOR (FEMALE) 5P	2	
QR6501		UN221F	TRANSISTOR-RESISTOR	1	
QR6502		UN211F	TRANSISTOR-RESISTOR	1	
QR6503		UN221F	TRANSISTOR-RESISTOR	1	
QR6504		MUN2211	TRANSISTOR-RESISTOR	1	
QR6505		UN2119	TRANSISTOR-RESISTOR	1	
R6501		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R6504		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R6505		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R6507		ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R6509		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R6510,11		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R6513		ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R6514		ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R6515		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6516		ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R6517		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
S6501,02		EVQ11409K	SWITCH	2	
S6503		VSS0405	SWITCH	1	
S6504		VSS0406	SWITCH	1	
S6505		VSS0407	SWITCH	1	
S6506		VSS0404	SWITCH	1	
VR6501		EVUF3AF15B24	V.RESISTOR 20K	1	
VR6502		EVJYM0F15C23	V.RESISTOR 2K	1	
VR6503,04		EVJ021F1554J	V.RESISTOR	2	
ZB4801		VJF1076	JACK HOLDER	1	
ZB6515		VGH3841	SWITCH SHEET	1	
			MISCELLANEOUS		
		VGU5986	SLIDE KNOB	4	
		VGU6968	H.P VR KNOB	4	
		VMD0504	LED HOLDER	6	
	■	VEP08178A	TRANSCODER C.B.A.		(RTL)
C8001		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C8002		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C8003		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8004,05		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C8006		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C8007		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C8008		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C8009		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C8010		ECQP1H472JZ	P.CAPACITOR 50V 4700P	1	
C8011		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C8012		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C8013		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C8014		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8015		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C8016		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C8017		ECUM1H682KBN	C.CAPACITOR CH 50V 6800P	1	
C8018		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C8019		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C8020,21		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C8022-24		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	3	
C8025		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8026		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C8027		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C8028-30		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	3	
C8031		ECUM1H391JUN	C.CAPACITOR CH 50V 390P	1	
C8032		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C8033		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C8034		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C8035		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C8036		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C8037		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C8038		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C8039		ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C8040		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C8041		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C8042		ECQV1H563JM	P.CAPACITOR 50V 0.47U	1	
C8043		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C8044		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8045		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C8046		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C8047		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8048		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8049		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8050		ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C8051		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C8052		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C8053		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8054,55		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C8058		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C8059		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C8060		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C8061		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C8062		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C8063		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8064		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C8065-69		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C8070		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C8071		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8072		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C8073		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8074		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C8075		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C8077,78		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C8079		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8080		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C8081,82		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C8084		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8085		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8086		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
D8001,02		MA151WK	DIODE	2	
D8003,04		MA151K	DIODE	2	
D8005		MA151WK	DIODE	1	
D8006		1SS283	DIODE	1	
D8007-11		MA151WK	DIODE	5	
D8014-16		MA151K	DIODE	3	
DL8001,02		VLD0383	DELAY	2	
FL8001		EFCS4R5MS4C	FILTER	1	
IC8001		TDA2595	IC	1	
IC8002		TDA3592A	IC	1	
IC8003		MN4538BS	IC	1	
IC8004		AN1393S	IC	1	
IC8005		TDA4510	IC	1	
IC8006		TDA8505	IC	1	
IC8007		MN4013BS	IC	1	
IC8008		BU5739S	IC	1	
IC8009		M52055FP	IC	1	
IC8010,11		NJM2234MA	IC	2	
IC8012		MN4538BS	IC	1	
IC8013		BA7025L	IC	1	
K8001		ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
L8001		VLQ0633J680	COIL 68UH	1	
L8002		VLQ0633J101	COIL 100UH	1	
L8003,04		VLQ0633J8R2	COIL 8.2UH	2	
L8005		EIK7QG001B	COIL	1	
L8006		VLQ0633J100	COIL 10UH	1	
L8007		EIF7QG001Q	COIL	1	
L8008		VLQ0633J680	COIL 68UH	1	
L8009		VLQ0633J8R2	COIL 8.2UH	1	
L8010		EIK7EG015B	COIL	1	
L8011-13		VLQ0633J680	COIL 68UH	3	
L8015		VLQ0633J680	COIL 68UH	1	
PP8001		VJP3042G020W	CONNECTOR (MALE) 20P	1	
PP8002		VJP3042A016W	CONNECTOR (MALE) 16P	1	
Q8001		MSB709	TRANSISTOR	1	
Q8004-06		MSD601	TRANSISTOR	3	
QR8001		MUN2213	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR8002,03		MUN2113	TRANSISTOR-RESISTOR	2	
QR8004-06		MUN2213	TRANSISTOR-RESISTOR	3	
QR8007		MUN2112	TRANSISTOR-RESISTOR	1	
QR8008		MUN2213	TRANSISTOR-RESISTOR	1	
QR8009		MUN2211	TRANSISTOR-RESISTOR	1	
QR8010,11		MUN2113	TRANSISTOR-RESISTOR	2	
QR8012		MUN2112	TRANSISTOR-RESISTOR	1	
QR8013		MUN2113	TRANSISTOR-RESISTOR	1	
QR8016		UN2213	TRANSISTOR-RESISTOR	1	
R8001		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R8002		ERJ6GMYG203	M.RESISTOR CH 1/10W 20K	1	
R8003		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R8004		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R8005		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R8006		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R8007		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R8008		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R8009		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R8010		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R8011		ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R8012		ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R8013		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R8014		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R8015		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R8016		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R8017		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R8018		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R8019		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R8020		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R8022		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R8023		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R8024		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R8025		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R8026		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R8027		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R8028		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R8029		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R8031		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R8032		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R8033		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R8034,35		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	2	
R8036		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R8037		ERJ6GMYG202	M.RESISTOR CH 1/10W 2K	1	
R8038		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R8039		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R8040		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R8041		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R8042		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R8043		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R8044		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R8045		ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R8046		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R8047		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R8048,49		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R8050		ERJ6GMYJ512	M.RESISTOR CH 1/10W 5.1K	1	
R8051		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R8052,53		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R8054		ERJ6GMYJ390	M.RESISTOR CH 1/10W 39	1	
R8055		ERJ6GMYJ154	M.RESISTOR CH 1/10W 150K	1	
R8056		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R8057		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R8058		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R8059		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R8060		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R8061		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R8063		ERJ6GMY0R00	M.RESISTOR CH 1/10W 0	1	
R8064		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R8065		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R8066		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R8083-85		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	3	
R8086-89		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	4	
R8090		ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R8091		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8092		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
T8001		ELM7Q207A	COIL	1	
VC8001,02		ECRHA030E54	TRIMMER 3P	2	
VR8001		EVMEASA00B24	V.RESISTOR 20K	1	
VR8002		EVNCYAA03B23	V.RESISTOR 2K	1	
VR8003		EVMEASA00B13	V.RESISTOR 1K	1	
VR8004		EVNCYAA03B53	V.RESISTOR 5K	1	
VR8005		EVMEASA00B52	V.RESISTOR 500	1	
VR8006		EVNCBAA00B53	V.RESISTOR 5K	1	
VR8007		EVMEASA00B53	V.RESISTOR 5K	1	
X8001		VSX0066	CRYSTAL OSCILLATOR	1	
X8002		VSX0225	CRYSTAL OSCILLATOR	1	
X8003		VSX0807	CRYSTAL OSCILLATOR	1	
ZB8001,02		VMT0199	C.B.A. SPACER	2	
	■	VEP07808B	TIMER C.B.A.		(RTL)
C7501		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7504		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7505		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C7506		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7507		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7508		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7509		ECEA1HKS100	E.CAPACITOR 50V 10U	1	
C7510		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7511		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7513		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7514		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7515		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7516		ECEA1AKS221	E.CAPACITOR 10V 220U	1	
C7517,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7519,20		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	2	
C7521		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C7522		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C7524		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7525		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7526,27		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7528,29		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
D7501		MA151K	DIODE	1	
D7502-06		1SS254	DIODE	5	
D7507		MA151K	DIODE	1	
D7510-12		MA151K	DIODE	3	
D7514		MA151K	DIODE	1	
D7516,17		MA151K	DIODE	2	
D7519		MA151K	DIODE	1	
D7521		MA151K	DIODE	1	
D7523		MA151K	DIODE	1	
D7528		MA151K	DIODE	1	
D7529		MA723VT	DIODE	1	
D7530		MA151K	DIODE	1	
D7531		1SS254	DIODE	1	
D7532		MA4220	DIODE	1	
D7542		MA151K	DIODE	1	
D7544		MA151K	DIODE	1	
D7546		1SS254	DIODE	1	
DP7501		VSL0348	DISPLAY TUBE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC7501		M37507V6AD	IC	1	
IC7503		RPM675CBRX10	IR RECEIVER UNIT	1	
IC7504		PST7023	IC	1	
IC7505		S80743AL	IC	1	
IC7506		BA6810F	IC	1	
K7504		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
P7501		VJS3537A032G	CONNECTOR (FEMALE) 32P	1	
P7504		VJS3405A013A	CONNECTOR (FEMALE) 13P	1	
PP7501		VJS3301	CONNECTOR (FEMALE)	1	
QR7505-08		MUN2113	TRANSISTOR-RESISTOR	4	
QR7509-11		MUN2111	TRANSISTOR-RESISTOR	3	
QR7512,13		MUN2112	TRANSISTOR-RESISTOR	2	
R7501-04		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	4	
R7505,06		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R7508-10		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	3	
R7512		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7513		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7514		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7515		ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R7516		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7517		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7518		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7519		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7520,21		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R7522		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R7523		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R7524		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R7525		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R7527		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R7528		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7529,30		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	2	
R7531		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R7532		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R7533		ERJ6GMYJ564	M.RESISTOR CH 1/10W 560K	1	
R7534,35		ERJ6GMYJ132	M.RESISTOR CH 1/10W 1.3K	2	
R7536		ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R7537,38		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
RX7501,02		EXBF6E104J	RESISTOR-RESISTOR	2	
RX7503		EXBF8E104J	RESISTOR-RESISTOR	1	
S7501-11		EVQ11409K	SWITCH	11	
S7512		VSQ0822	ROTARY SWITCH	1	
VC7501		ECRHA010A54R	V.CAPACITOR 0.05U	1	
VR4004		EVNCYAA03B53	V.RESISTOR 5K	1	
X7501		VSX0608	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
ZB7501		VJF1139	FIP HOLDER	1	
ZB7502		VMD2247	IR RECEIVER HOLDER	1	
ZB7503		VMD2035	JOG SHUTTLE HOLDER	1	
	■	VEP01639B	POWER C.B.A.		(RTL)<!>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1101-03		ECKMWS102MEH	C.CAPACITOR 1000P	3	<!>
C1105,06		ECQU2A154MV	P.CAPACITOR 100V 0.15U	2	<!>
C1107		ECEC2GG121HZ	E.CAPACITOR 400V 120U	1	
C1108		ECCD3A121KGE	C.CAPACITOR 1KV 120P	1	
C1109		ECKD2H103PU	C.CAPACITOR 500V 0.01U	1	
C1110		ECA0GXLV331	E.CAPACITOR 4V 330U	1	
C1111		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C1112		ECQB1H822JF	P.CAPACITOR 50V 8200P	1	
C1113		ECQE6104KF	P.CAPACITOR 630V 0.1U	1	
C1114		ECA1VXLV470	E.CAPACITOR 35V 47U	1	
C1121		EEUFA1E272E	E.CAPACITOR 25V 2700U	1	
C1122		EEUFA1E102	E.CAPACITOR 25V 1000U	1	<!>
C1123		ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C1124		EEUFA1A332E	E.CAPACITOR 10V 3300U	1	
C1125		EEUFA1A102B	E.CAPACITOR 10V 1000U	1	
C1126		ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C1127		EEUFA1H820B	E.CAPACITOR 50V 82U	1	
C1128		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1129		ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C1130		EEUFA1V151B	E.CAPACITOR 35V 150U	1	
C1131		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1132		ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C1133		EEUFA0J561B	E.CAPACITOR 6.3V 560U	1	
C1134,35		ECQB1H103JF	P.CAPACITOR 50V 0.01U	2	
D1102		S1WBA60S	DIODE	1	<!>
D1103		AP01C	DIODE	1	
D1104		MA178	DIODE	1	
D1105		MA700	DIODE	1	
D1106		MA4200H	DIODE	1	
D1107		1SS254	DIODE	1	
D1108,09		ERA15-08	DIODE	2	
D1110		RD100E	DIODE	1	
D1121		F5KF20B	DIODE	1	
D1122		F5KQ40	DIODE	1	
D1123		ERA22-02	DIODE	1	
D1124		MA185	DIODE	1	
D1125		11EQS04	DIODE	1	
D1126		MA4047-M	DIODE	1	
D1127		MA4043L	DIODE	1	
IC1101		STRM6559LF	IC	1	
L1101,02		ELF18D221F	COIL 220UH	2	<!>
L1103,04		VLP0083	COIL	2	
L1105		VLP0085	COIL	1	
L1106		VLP0083	COIL	1	
L1121,22		VLQ0611K220	COIL 22UH	2	
L1123,24		ELESE101KA	COIL 100UH	2	
P1101		VJS3306	AC INLET	1	<!>
P1102		VJP3631A011W	CONNECTOR (MALE) 11P	1	
Q1101		PC120FY	TRANSISTOR	1	<!>
QR1121		UN6213	TRANSISTOR-RESISTOR	1	
R1101		ERC12AGM334	S.RESISTOR 1/2W 330K	1	<!>
R1102		ERG1SJ393	M.RESISTOR 1W 39K	1	
R1105		ERDS1TJ395	C.RESISTOR 1/2W 3.9M	1	
R1106		ERDS1TJ475	C.RESISTOR 1/2W 4.7M	1	
R1107		ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
R1108		ERDS2FJ101	C.RESISTOR 1/4W 100	1	
R1109		ERDS2FJ152	C.RESISTOR 1/4W 1.5K	1	
R1110		ERDS2FJ103	C.RESISTOR 1/4W 10K	1	
R1111		ERDS2FJ561	C.RESISTOR 1/4W 560	1	
R1112		ERDS2FJ331	C.RESISTOR 1/4W 330	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1113		ERX1SJR82	M.RESISTOR 1W 0.82	1	
R1114		ERDS2FJ222	C.RESISTOR 1/4W 2.2K	1	
R1115		ERDS2FJ220	C.RESISTOR 1/4W 22	1	
R1121		ERDS2TJ220	C.RESISTOR 1/4W 22	1	
R1122		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
T1101		ETE28K100BY	TRANSFORMER	1	<!>
ZA1101,02		EYF52BC	FUSE HOLDER	2	<!>
ZA1103		VSC4205	SHIELD CASE	1	
ZA1104,05		VSC3434	SHIELD CASE	2	
ZA1106		VSC4259	SHIELD CASE	1	
ZA1109,10		XTN3+8G	SCREW	2	
ZA1111		XTN3+10G	SCREW	1	
ZB1101,02		VMZ2212	CAPACITOR COVER	2	<!>
	■	VEP01637A	SUB POWER C.B.A.		(RTL)<!>
C1201		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1202,03		ECEA1CGE101	E.CAPACITOR 16V 100U	2	
D1201-07		11ES1	DIODE	7	
IC1201		UPC393C	IC	1	
IC1202		SI3090CLF	IC	1	
P1201		VJP1231T	CONNECTOR (MALE) 4P	1	
P1202,03		VJP1232T	CONNECTOR (MALE) 5P	2	
Q1201		2SB1398-Q	TRANSISTOR	1	
R1201,02		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	2	
R1203		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1204		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R1205		ERDS2CKG2000	M.RESISTOR 1/4W 200	1	
R1206		ERDS2CKG2201	M.RESISTOR 1/4W 2.2K	1	
R1207		ERDS2CKG2000	M.RESISTOR 1/4W 200	1	
VR1201		EVMEASA00B22	V.RESISTOR 200	1	
	■	VEX0231	CYLINDER DRIVE C.B.A.		(RTL)
C2901-03		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	3	
C2904-06		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	3	
C2907		ECUM1E683KBM	C.CAPACITOR CH 25V 0.068U	1	
C2908		ECUM1E473KBM	C.CAPACITOR CH 25V 0.047U	1	
C2910		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
IC2901		AN3814K	IC	1	
P2901		VJP2603W	CONNECTOR (MALE)	1	
P2902		VJP1232T	CONNECTOR (MALE) 5P	1	
R2901		ERX12SJR68	M.RESISTOR CH 1/2W 0.68	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
TH2901		VRH0017-1A	THERMISTOR	1	
			MISCELLANEOUS		
		VMA9138	MAIN HOLDER	1	
	■	----------	MOTOR C.B.A.		
			MISCELLANEOUS		
		VJP3316B002	CONNECTOR (MALE) 2P	1	

Memo

INTERNAL REFERENCE CODE

NOTE : This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
MAIN	HOAI01-03B73
LUMINANCE & CHROMINANCE	HOAI00-03B90
HEAD AMP	HOAI04-05176
TIMER SYUUGOU (FRONT JACK / VR / TIMER)	HOAI01-0325A
HI FI	HOAI00-04447
INPUT/OUTPUT	HOAI00-03B75
NICAM DECORDER	HOAI00-07787
TV DEMODULATOR	HOAI00-07797
CYLINDER DRIVE	HOAI00-00X69
TRANSCODER	HOAI00-08178
POWER	HOAI00-01639
SUB POWER	HOAI00-01637

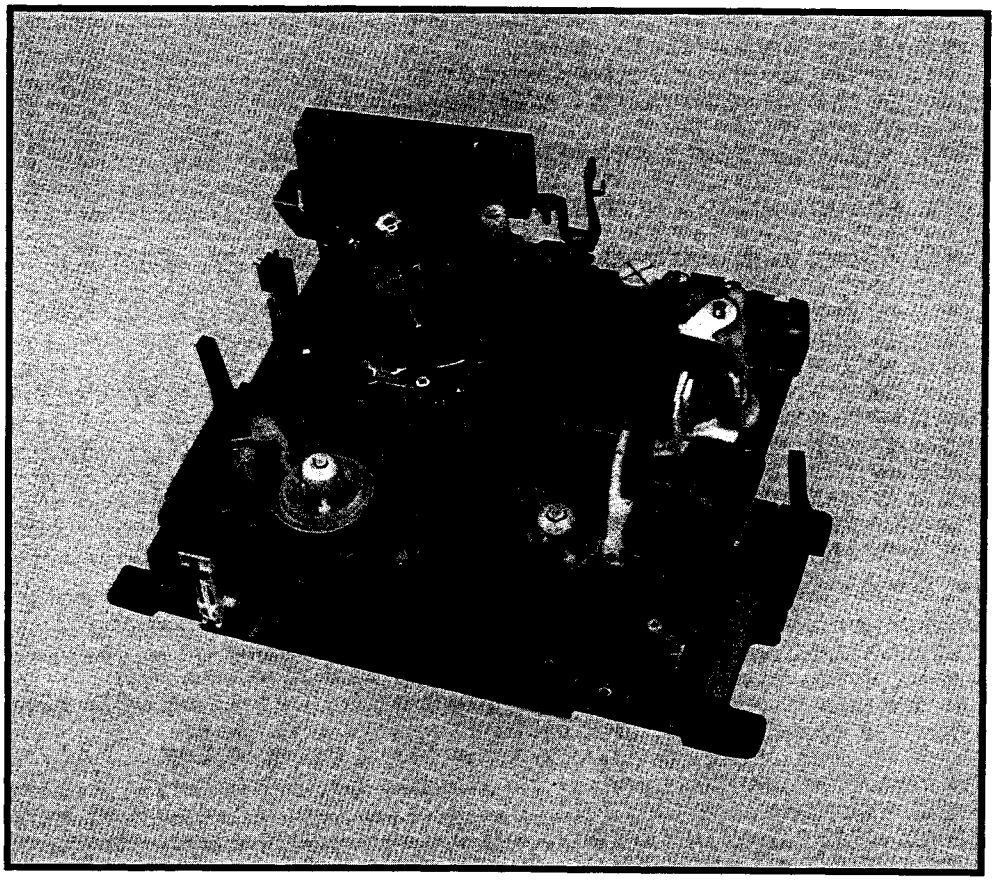
ORDER NO. VRD9307M131

Service Manual

Service Information
Adjustment Procedures
Assembly / Disassembly Procedures
Parts Change (~May '93)
Trouble Shooting

VHS Video Cassette Recorder
Mechanical chassis

No. K



IMPORTANT

The K-Mechanism chassis are built in several Panasonic VHS Video Cassette Recorders From NV-SD, HD series in 1992.
Thus, properly file this service manual with the service manuals of the relative video cassette recorders.

Panasonic

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1. SERVICE INFORMAION

1-1. SERVICE POSITION

When servicing the K-Mechanism, the Mechanism can easily be fixed by standing the Mechanism up in the Main Frame as shown below to check easily.

In this position, the following services are possible.

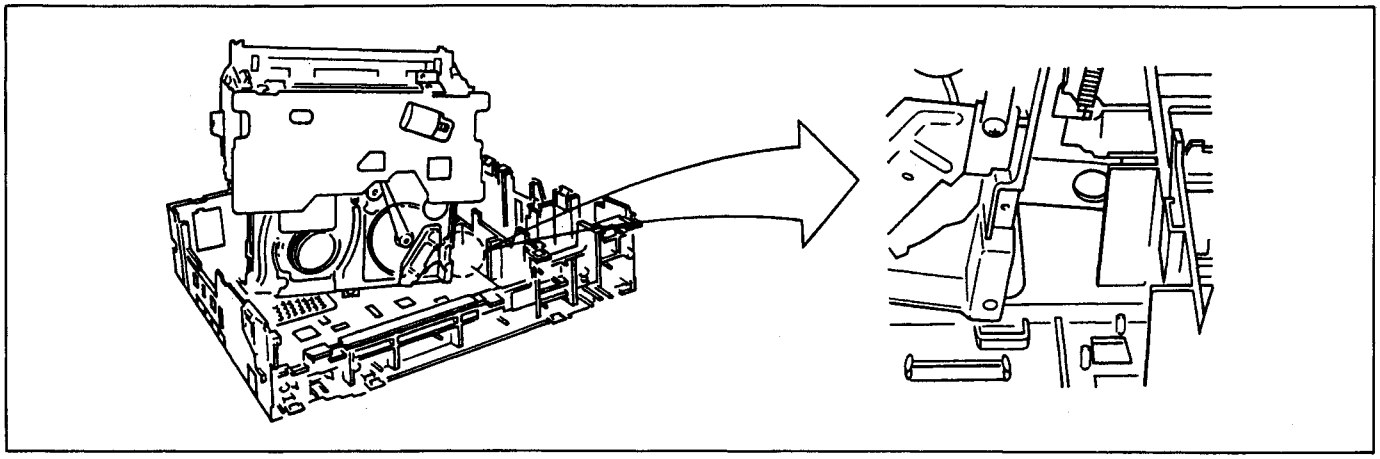


Fig. S1

1-1-1. CHECKING OF GEAR PHASE ALIGNMENT CONDITION

1) Remove the Mechanism Connection C.B.A.
2) Check gear phase Alignment Condition of Mechanism described on the left (NV-SD series) or bottom (NV-HD series) side of Frame.)

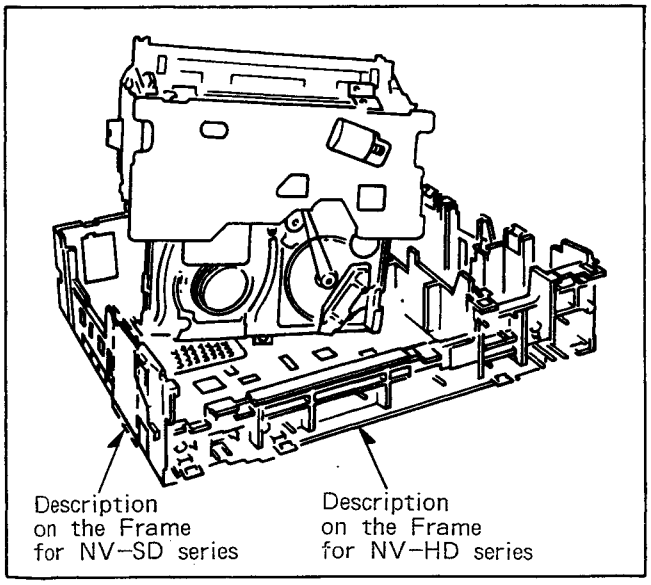


Fig. S2

1-1-2. Checking of Loading / Unloading Operation.

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Turn the Worm Gear or the WORM WHEEL GEAR (Remove the loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./+4.5V) or Power Supply (+4.5V) to the Loading Motor terminals.

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. (Turn the Shuttle Ring to FF then push the Eject button, or press the FF, REW and Eject buttons simultaneously.)
   2) Make a momentary short circuit as shown in the service manual, or press the TV/VTR button.(The end of display on the Display becomes "--".)

Note:

For NV-HD100AM/MC, NV-F125BD, NV-SD20EE, and NV-SD25AM, make a momentary short circuit between TL7508 and D7517-cathoid For NV-HD100AM/MC and NV-F12513D, or TL7508 and D7527-cathoid for NV-SD20EE and NV-SD25AM.

   3) In the above Service Information Display mode, The Loading Motor rotates for loading operation when the "PLAY" button is pressed The Loading Motor rotates for unloading operation when the "STOP" button is pressed.

Remark:

After checking, check the "SERVICE" INFORMATION DISPLAY" mode for final confirmation of movement of Mechanism.

1-1-3. Checking of operation of Reel Gears.

1) Remove the Mechanism Connection C.B.A.
2) Set mechanism to "PLAY" position by manual operation of loading.
3) Turn the "Rotor Unit" to check movement of reel gears.

1-2. REPLACEMENT OF CYLINDER UNIT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the 3 screws of the Cylinder Unit with a magnetized screw driver through the holes on the Bottom Plate as shown in Fig.S4.

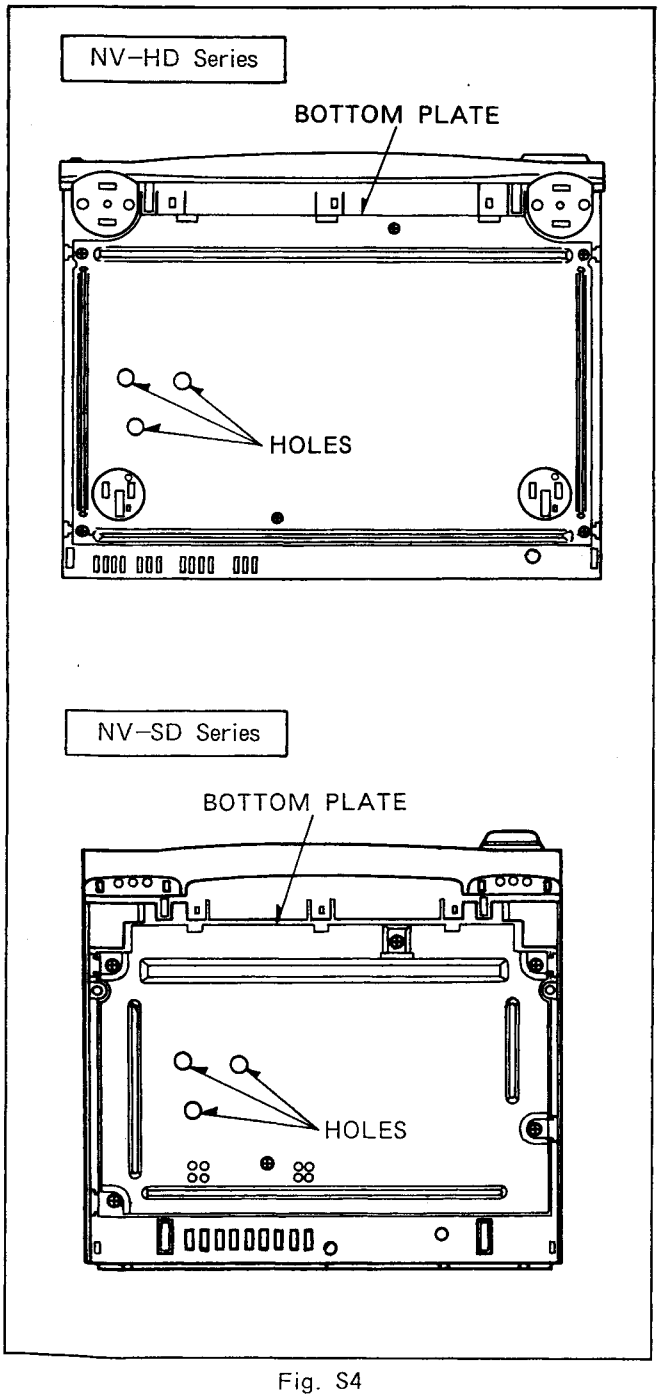


Fig. S4

1-3. ASSEMBLY OF CAPSTAN STATOR UNIT

When replacing the CAPSTAN STATOR UNIT, the CENTRE FIXING TOOL (VFK0851) must be used to fix the centre of CAPSTAN STATOR UNIT.

Method:

1) Place the CAPSTAN STATOR UNIT into position.
2) Loosely tighten the 3 screws.
3) Insert the CENTRE FIXING TOOL (VFK0851) as shown in Fig.S5.
4) Tighten the 3 screws.
5) Remove the CENTRE FIXING TOOL.

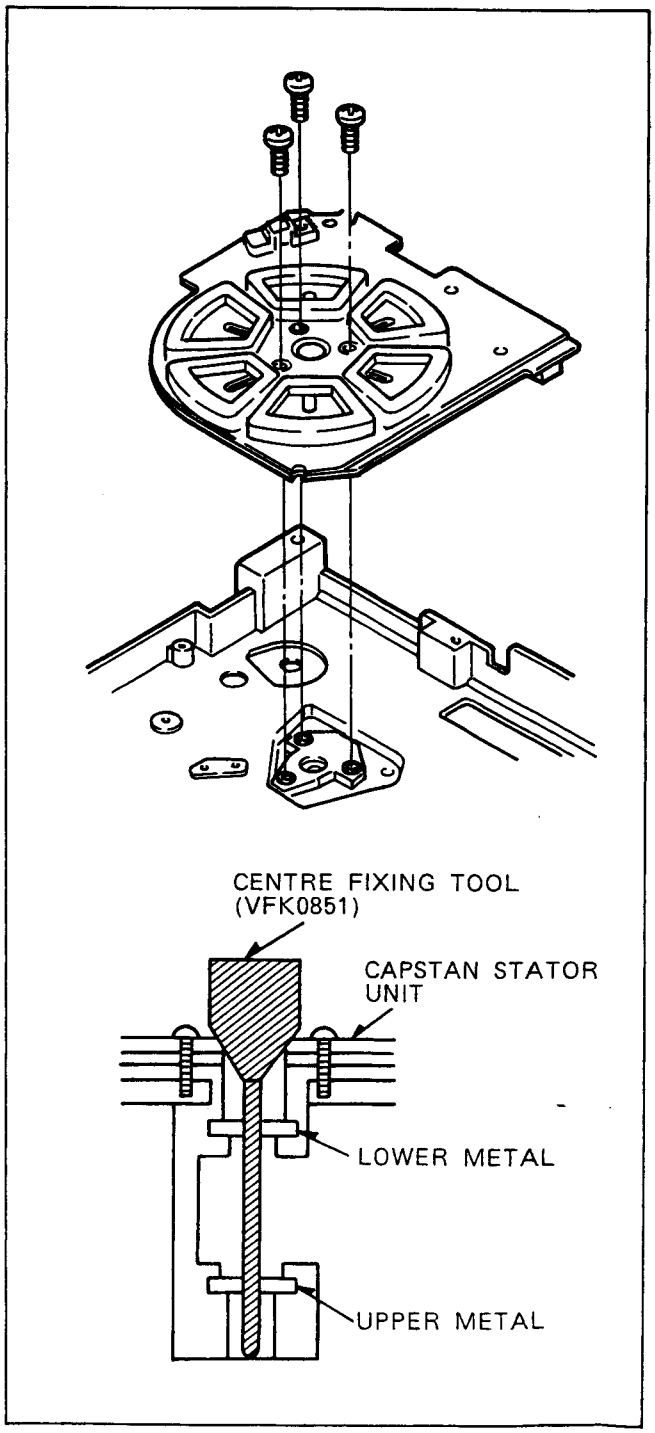


Fig. S5

1–4. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

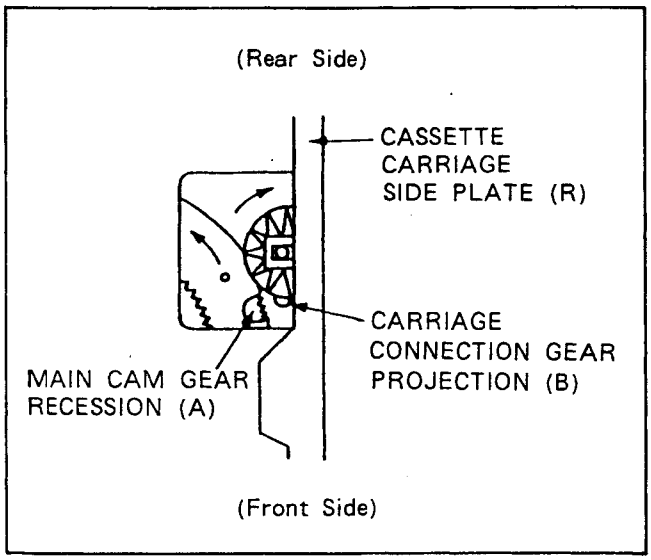


Fig. S6 Top View of Eject Operation

1–5. TAKE-UP PHOTO SENSOR OPERATION

Note the following matters for Take-up Photo Sensor Operation.

1) While servicing of the K–Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take-up Photo Sensor.
   In this case, cover the Take-up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K–Mechanism with "Power On" and without cassette tape inserted, the Unit does not operate properly.

1–6. SERVICING OF POWER TR C.B.A.

When removing the connector on the Power Tr. C.B.A., hold the P. C. Board by hand to prevent damage of the Power Tr.

1–7. REMOVAL OF THE CASSETTE TAPE

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Remove the bottom plate.
2) Turn the WORM GEAR to "A" arrow mark direction manually as shown in Fig.S7, moving the LOADING POST to the unloaded position.
3) Turn the CAPSTAN clockwise to take up the tape.
4) Turn the WORM GEAR again to eject the cassette.

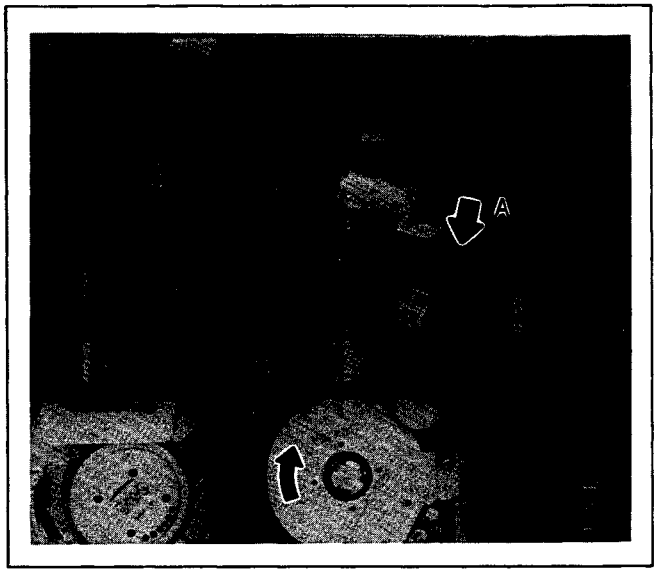


Fig. S7

2. BATTERY OPERATION

1) Connect the battery (Manganes-Type R6 (AA) 3pcs./+4.5V) to P1503 as shown in Fig. S8.
2) After moving the LOADING POST to the unloaded position, disconnect the battery to stop the motor.
3) Turn the CAPSTAN to clockwise to take up the tape.
4) Reconnect the battery to eject the cassette.

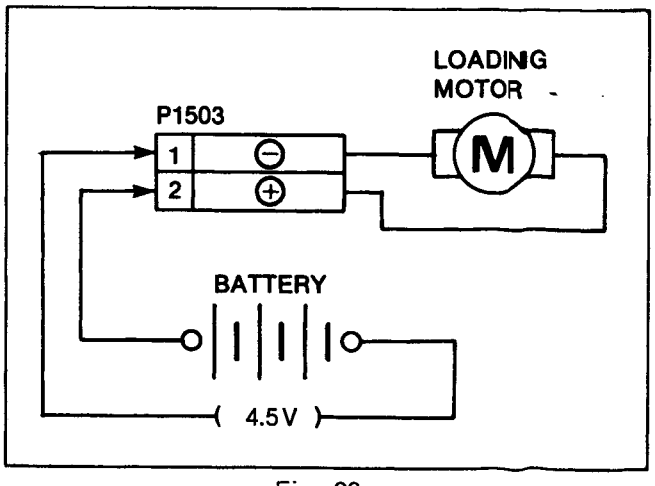


Fig. S8

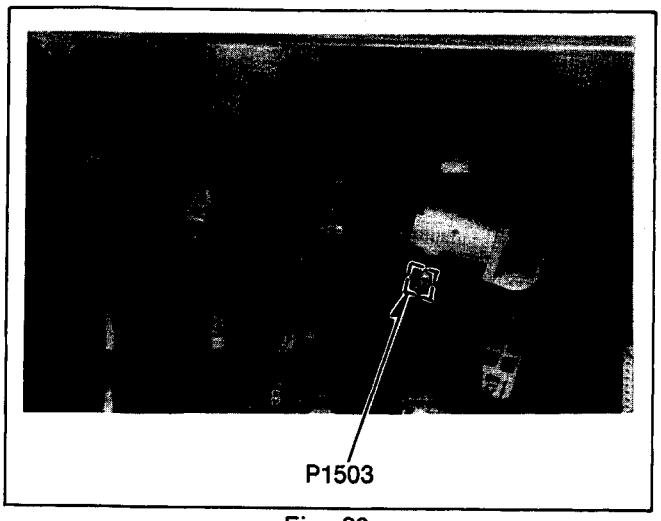


Fig. S9

1–8. INSTALLATION OF FLAT CARD CABLE

When installing of the Flat Card Cable to the connector, make sure the direction of the Flat Card Cable. The Insulation Sheet side is backside.

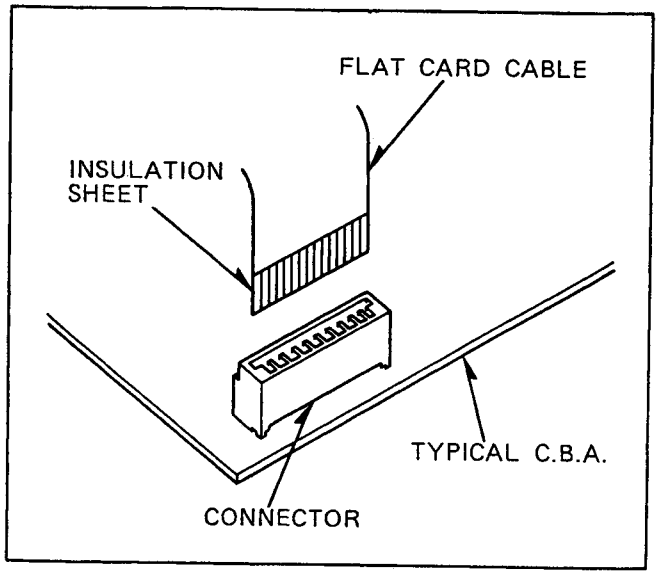


Fig. S10

1–9. SERIAL CLOCK TRANSMISSION ERROR DISPLAY

If the Serial Clock is not transmitted from IC6001 to IC7501, "E9" is displayed as shown in Fig.T1. This indication will be displayed either during the Service Information Display mode or in normal mode.

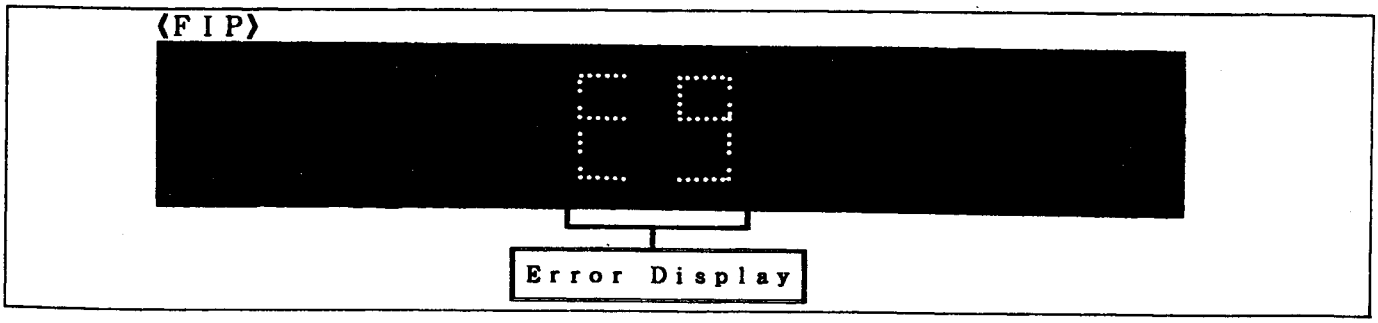


Fig. T1 Serial Data/Clock Transmission Error Display

1–10. SERVICE INFORMATION DISPLAY

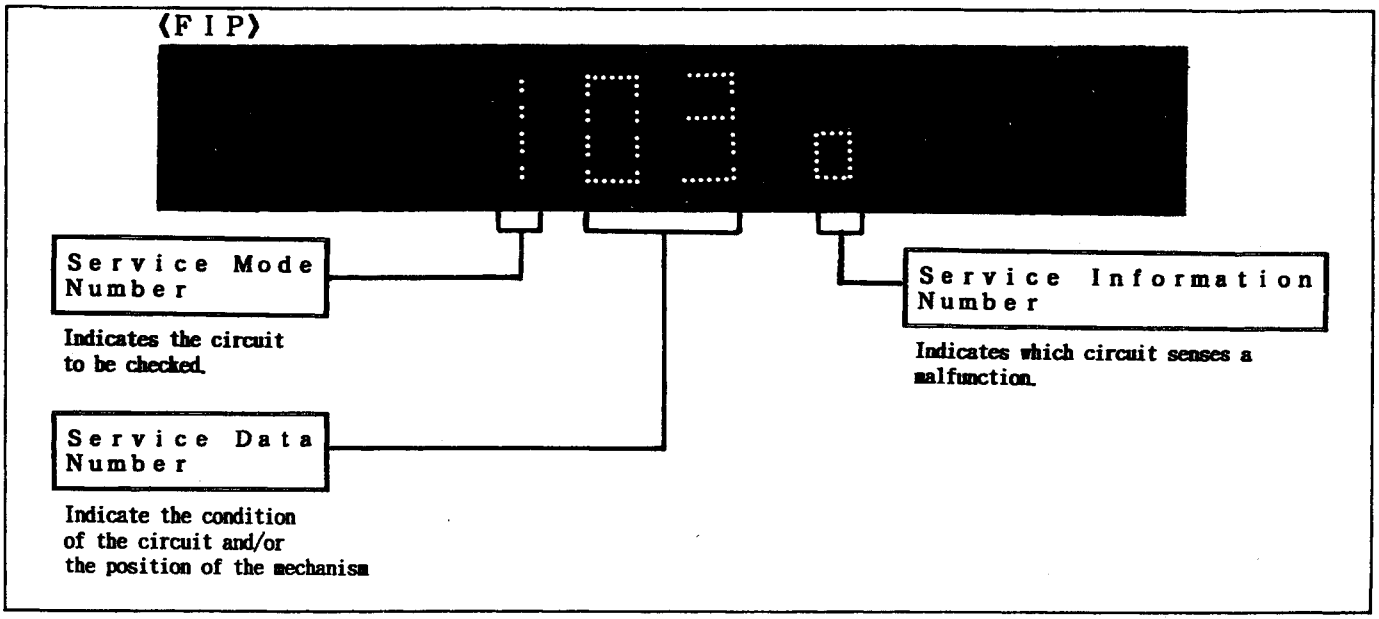


Fig. D1 Service Information Display

1–10–1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1–10–2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.

(1) Turn the Shuttle Ring to FF then push the Eject button. The Service Information will be displayed for 1 minute.
(2) Connecting a jumper wire between TPSERV and TPGND For NV–SD series (TP6010 and TP6011 for NV–HD series) will display the service information indefinitely.

In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which other 7 service modes that the unit is Currently in.

MODE 1 : Check tape protection circuit
MODE 2 : Check tape transport mechanism
MODE 3 : Check mode switching operation
MODE 4 : Check control buttons
MODE 5 : Check capstan motor
MODE 6 : Check cylinder motor
MODE 7 : Check loading/unloading operation

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is supplied.

1-10-3. Use of Service Modes

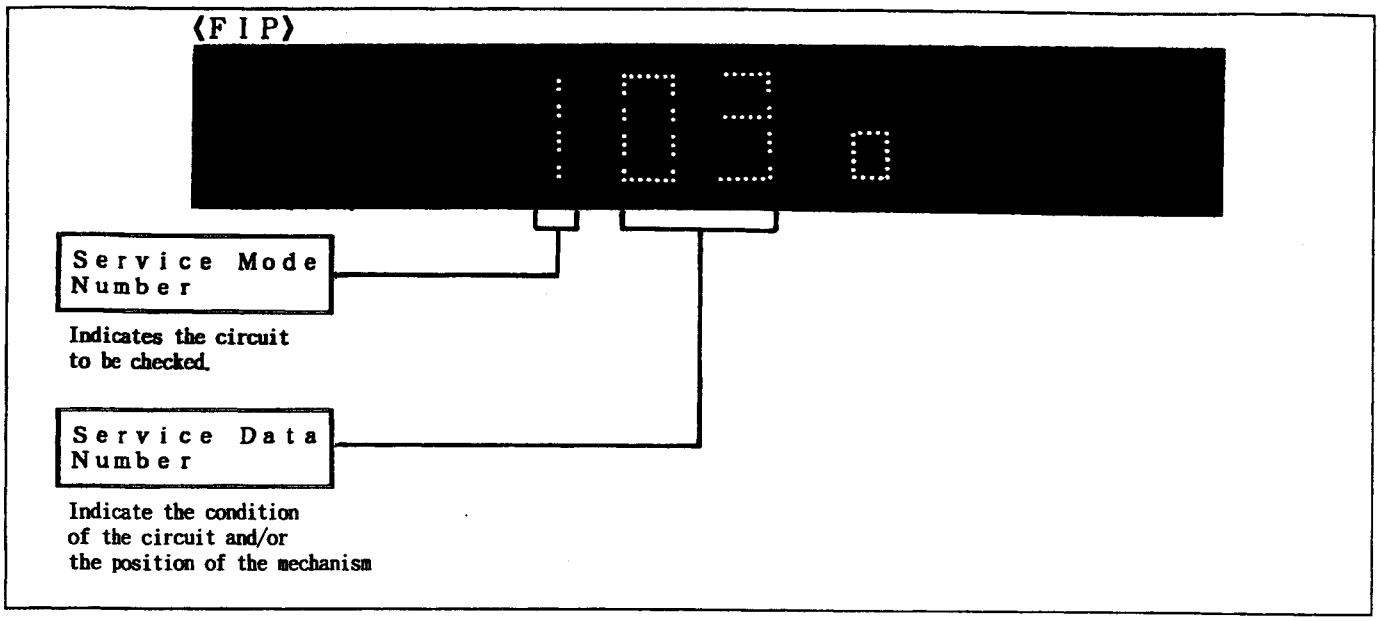


Fig. D2 Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.
(2) To change Service Modes turn the shuttle ring to FF then push the Eject button.
(3) Mode 1 : Checks that the Sensor LED, Supply & Take-up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take-up Sensors.
When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.

(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.

(6) Mode 4 : Checks the operation circuit.
Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.

(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.

(8) Mode 6 : Checks the cylinder motor circuit.
IC6001 has received the command to rotate the cylinder motor.

(9) Mode 7: Checks the Loading/Unloading Operation.
The Loading Motor rotates for loading operation when the "PLAY" button pressed.
The Loading Motor rotates For operation when the "STOP" button is pressed.

Note: This mode can be used by the System Control Microprocessor IC6001: MN67434VRSG or MN67434VRSH.

<NOTE>
Refer to Fig.D5 for details of Service Data Number.

1-10-4. Service Information Number

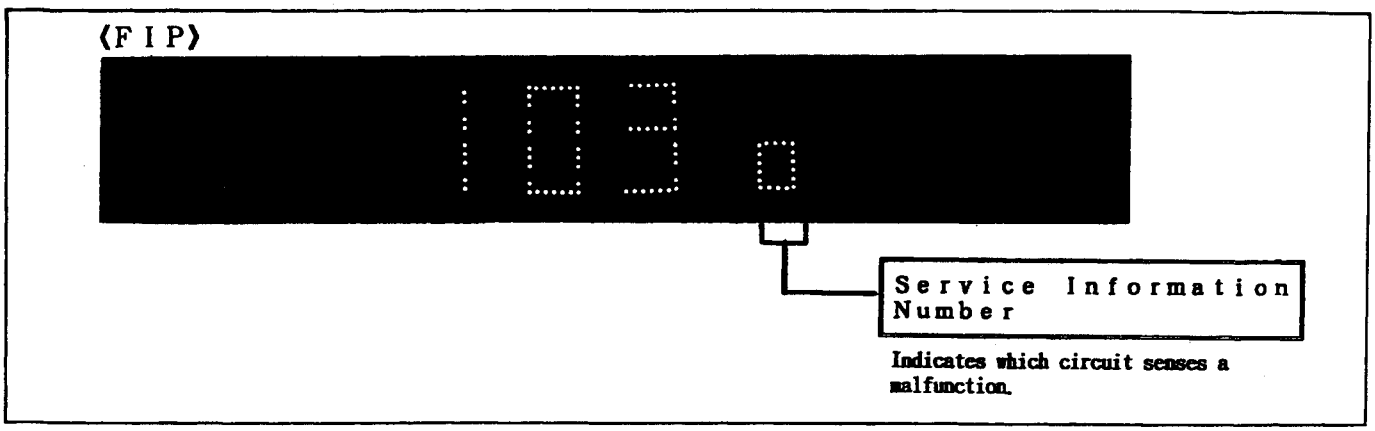


Fig. D3 Service Information Number on S.I.D.

Refer to Fig.D4 for details of Service Information Number.

Note:
The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is supplied.
If a second error occurs, the most current error will be displayed.

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Falty capstan rotation
6	Stop during Cassette-In/Eject operation

Fig. D4 Service Information

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	———	00	No light detected at either sensor	Tape not required
		01	Tape Begining. Light to Supply Photo Sensor is blocked.	
		02	**Tape End.** **Light to Take-up Photo Sensor is blocked.**	
		03	Light detected at both sensors.	
2	———	00	EJECT	Tape Reuired *1 : STOP3 ; The Pinch Roller is on the capstan motor shaft. *2 : STOP ; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP*2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.	Left Digit / Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor "PLAY" command recived by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.	Left Digit / Right Digit	1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor CUE, FF, Forward slow" commands received by IC6001.	
	Right digit only, disregard left digit display.	Left Digit / Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor Reverse, Rew, Reverse Slow commands received by IC6001.	
6	Left digit only, disregard Right digit display.	Left Digit / Right Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

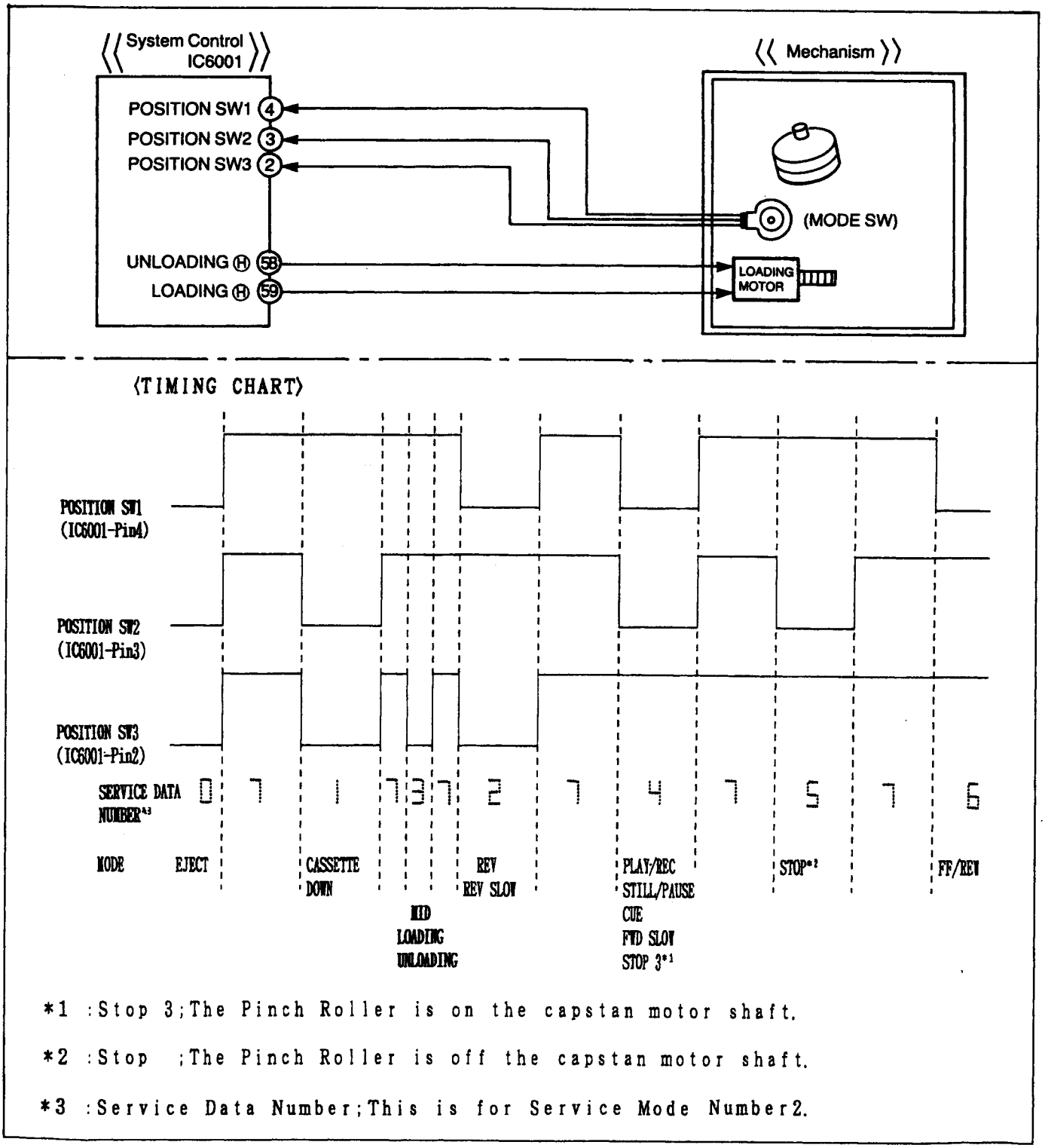
Fig. D5 Service Data Display and Indication

SERVICE DATA NUMBERS	MODE BUTTONS	SERVICE DATA NUMBERS	MODE BUTTONS
3n	OPERATE	54	RESET
01	EJECT	5	ZERO STOP
09	AUDIO DUB	-0	INPUT SELECT
A3	INSERT	49.4U	INDEX
-9	PAL/MESECAM	A1.A2	TRACKING(+,-)/V-LOCK
—	CHECK/PROG.	9	REPEAT
34 OR 35	∧∨, +−	8	SKIP
—	NEXT/SP/LP	—	TAPE SELECT
—	SLEEP/SHIFT	—	PROG.
A4	TIMER REC	—	NEXT
08	REC	—	RECORDING SP/LP
—	CLOCK SET	—	CANCEL
—	TUNER PRESET	10	SU(1)
80	PAUSE/STILL	11	MO(2)
0U	PLAY	12	TU(3)
00	STOP	13	WE(4)
0-.0n	JOG DIAL (FRAME ADV, REVERSE ADV)	14	TH(5)
03.02	SHUTTLE RING (FF, REW)	15	FR(6)
—	TV/VTR	16	SA(7)
—	SCANNER ON/OFF	17	SU~SA(8)
—	TRANSMIT	18	MO~SA(9)
0	SEARCH	19	MO~FR(0)
8L	+ (REMOTE CONTROLLER)	3A	-/--
8	- (REMOTE CONTROLLER)		
—	DISPLAY		

Fig. D6 Service Data Display for Service mode 4

1–10–5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position though the Mode SW.
Fig.D7 shows the timing for Service Mode Number 2.



*1 :Stop 3;The Pinch Roller is on the capstan motor shaft.

*2 :Stop ;The Pinch Roller is off the capstan motor shaft.

*3 :Service Data Number;This is for Service Mode Number2.

Fig. D7 Timing Chart of Mode SW

2. MECHANICAL ADJUSTMENT PROCEDURES

2–1. TENSION POST POSITION ADJUSTMENT

(Equipment Required)
Hex Wrench (VFK0326)

1. Disconnect the AC plug.
2. Remove the TOP PLATE and CASSETTE HOLDER.
3. Turn the LOADING MOTOR until the loading completes.
4. Adjust the hole of TENSION BAND FASTENER by hex wrench so that the left edge of IMPEDANCE ROLLER and TENSION ARM UNIT as shown in Fig.M1.

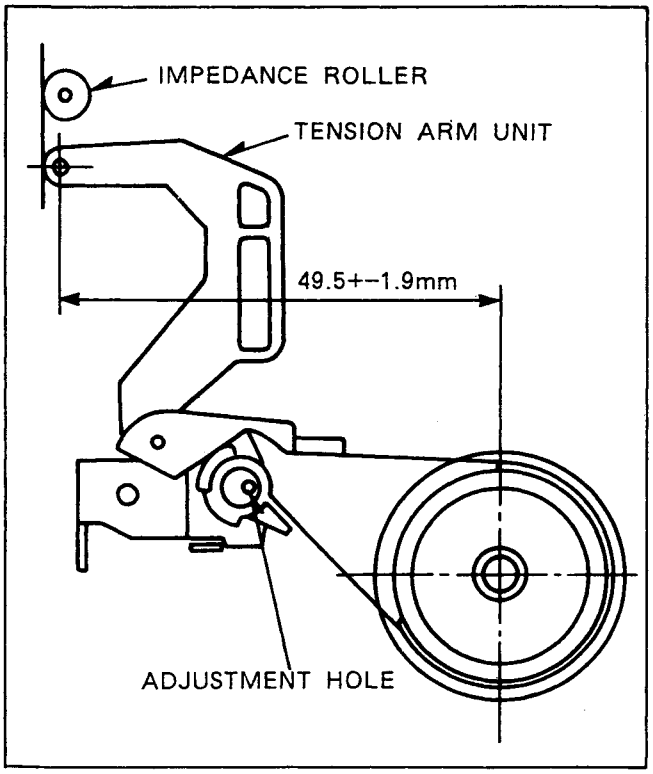


Fig. M1

2–2. BACK TENSION ADJUSTMENT

(Equipment Required)
Back Tension Meter (VFK0132)
VHS Cassette Tape (180 minutes tape: PAL)
(120 minutes tape: NTSC)

(Specification)
22.5–27.5g

1. Playback the cassette tape from the beginning and wait until the tape movement get the stabilization.
(for approx. 10~20 seconds)
2. Insert the Back tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Fig.M2.

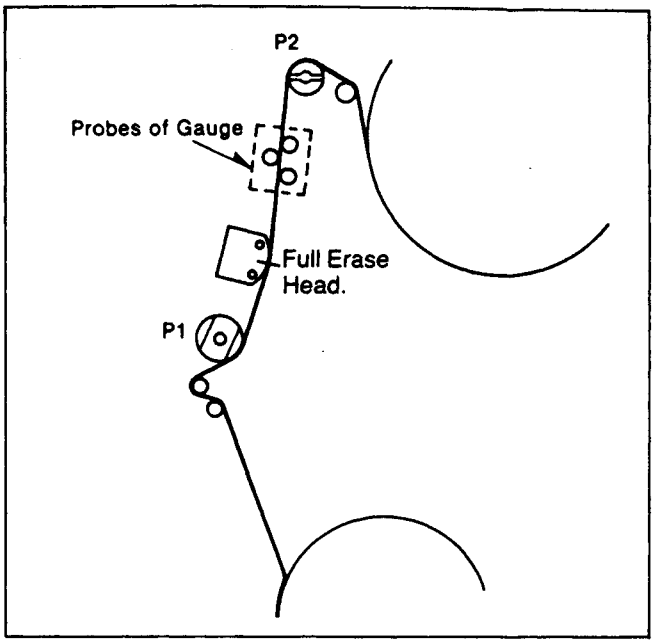


Fig. M2

3. If it is out of specification, change the spring notch as shown in Fig.M3.

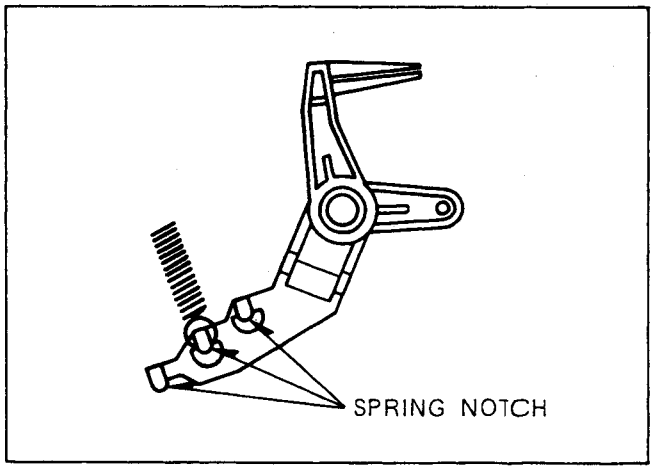


Fig. M3

2–3. P2 AND P3 POSTS ADJUSTMENT (PREADJUSTMENT)

(Equipment Required)
Post Adjustment Screwdriver (VFK0329)

1. Remove the TOP PLATE and CASSETTE HOLDER.
2. Turn the LOADING MOTOR until the unloading completes.
3. Loosen the fixing screw of P2 and P3 POSTS.
4. Rotate the P2 and P3 POSTS clockwise to the end.
5. Rotate the P2 and P3 POSTS twice counterclockwise.

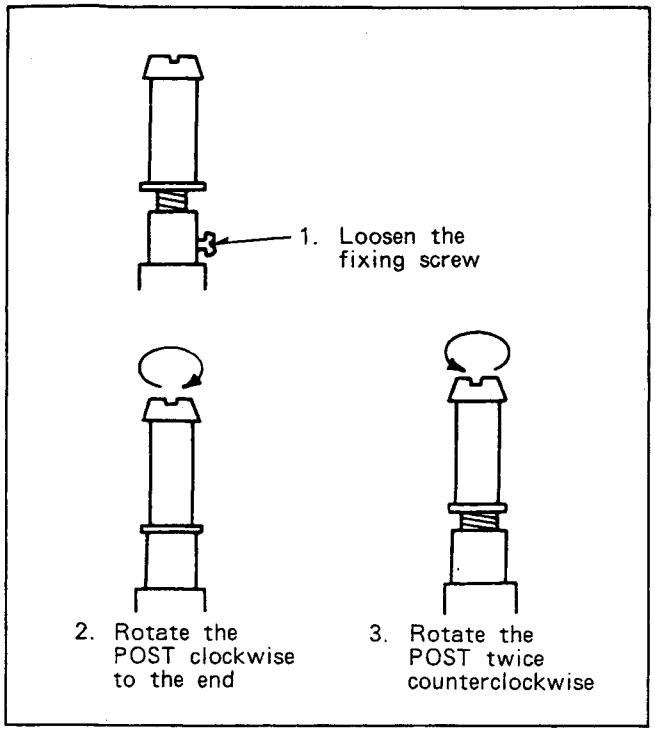


Fig. M4

6. Install the TOP PLATE and CASSETTE HOLDER
7. Playback the cassette tape and make sure that the edges of the tape are not curling at the bottom or top end of the P1, P2, P3 and P4 POSTS as shown in Fig.M5.

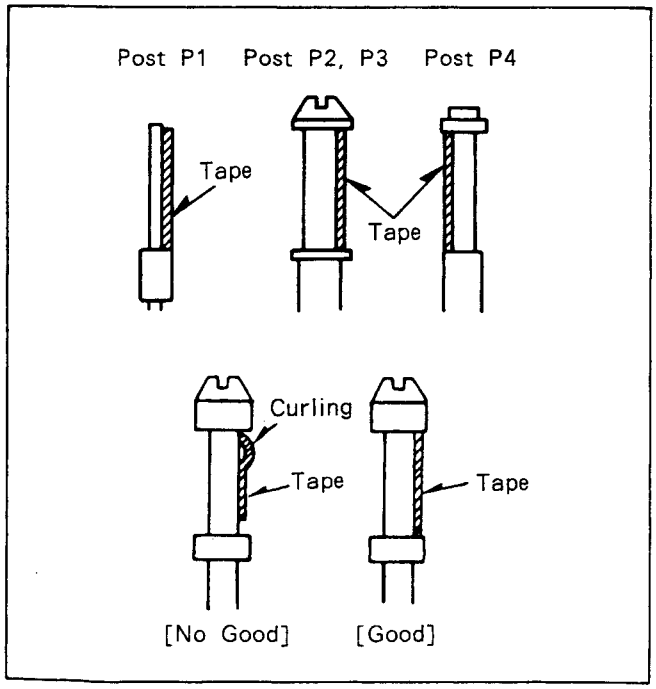


Fig. M5

8. If curling appears, readjusts the P2 and P3 POSTS.

2-4. TAPE INTERCHANGEABILITY ADJUSTMENT

Carry out the following procedures for Tape interchangeability Adjustment to do it correctly and smoothly.

(1) Adjustment of P2 and P3 Posts.
(2) Height Adjustment of A/C Head (1).
(3) Height Adjustment of A/C Head (2).
(4) Fine-Adjustment of A/C Head
(5) Horizontal Position Adjustment of A/C Head.

If the Tape Interchangeability Adjustment is not perfect, repeat the above procedures from (1) to (5).

CAUTIONS:

To mark a Adjustment Mode for Tape Interchangeability, connect a Cut Jumper Wire as shown in Fig.M6.
(Auto Tracking is turned off.)
After finishing the adjustment, disconnect the Cut Jumper Wire.

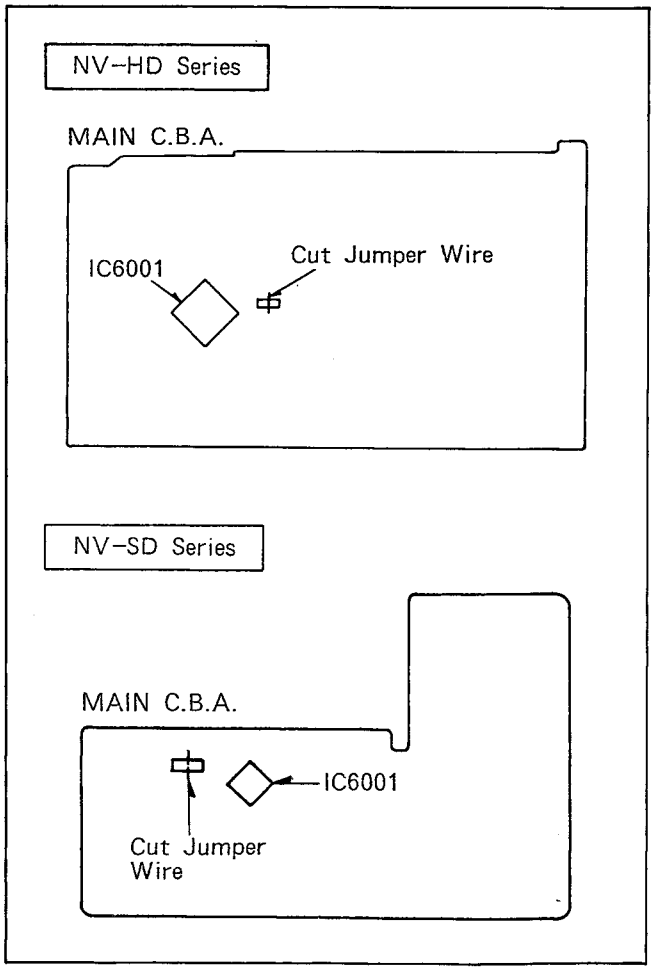


Fig. M6

(1) Adjustment of P2 and P3 Posts

(Equipment Required)
Alignment Tape(PAL/SECAM: VFJ8125H3F,
NTSC: VFM8080HQFP)
Post Adjustment Screwdriver (VFK0329)

1. Set the tracking control into the fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
And connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.

Note:
To get a stable waveform of the Head Amp output on the oscilloscope, use the head switching pulse as a triggering signal as shown in Fig.M7.

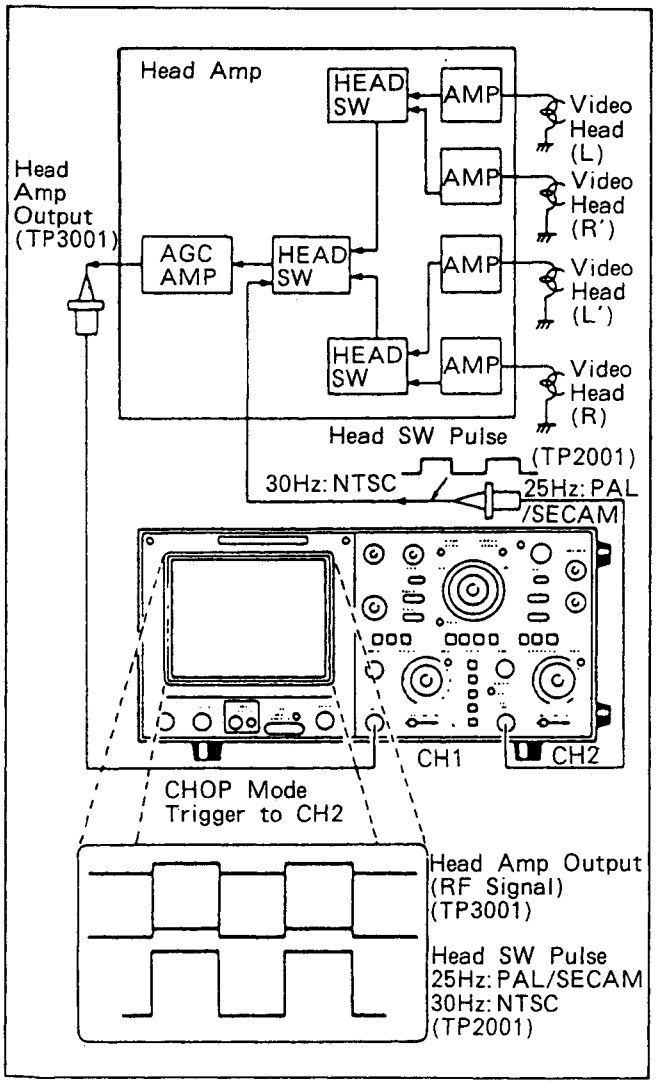


Fig. M7 Connect of Oscilloscope

2. Playback the alignment tape.
3. If the RF envelope appears like example "A" or "B" in Fig.M8 then adjustment of the tape guide post (P2: Entrance) is necessary.
4. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig.M8−"C".

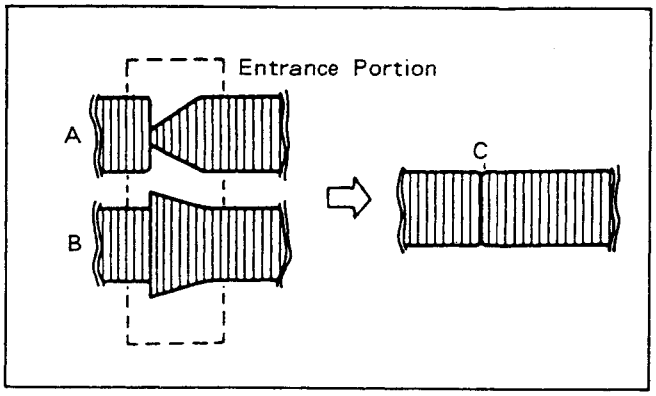


Fig. M8

5. If the RF envelope appears like example "D" or "E" in Fig.M9, then adjustment of the tape guide post (P3: Exit) is necessary.
6. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Fig.M9−"F".

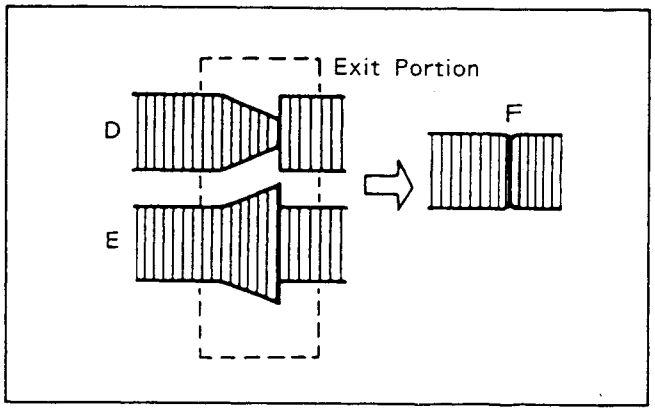


Fig. M9

7. Turn the Tracking VR fully clockwise and counter clockwise. (Keep pressing + button or − button on the Remote Controller) The output envelope should vary nearly parallel with other condition as shown in Fig.M10.
8. Set the tracking control into centre fix position and adjust for maximum RF envelope, whilst being as flat as possible.

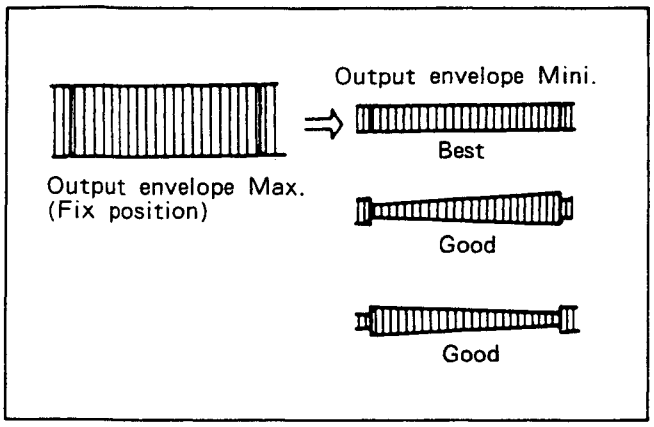


Fig. M10

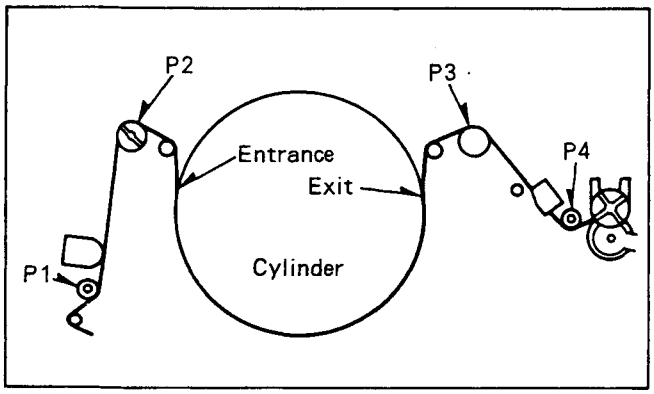


Fig. M11 Loading of Posts

(2) Height Adjustment of A/C Head (1)

1) Install the A/C HEAD on the A/C HEAD BASE(E) by 3 screws (A),(B) and (C) with springs.
2) Tighten the screw (A) unit it touches chassis and then rotate the SCREW (A) counterclockwise for approx. 1.5 times.
3) Rotate the 2 screws(B) and (C) until A/C HEAD BASE(D) and (E) is separate.

CAUTION:
When adjusting the Screws (B) and (C) on the A/C HEAD BASE(E), do not touch the Screw Driver to the face of the A/C HEAD.

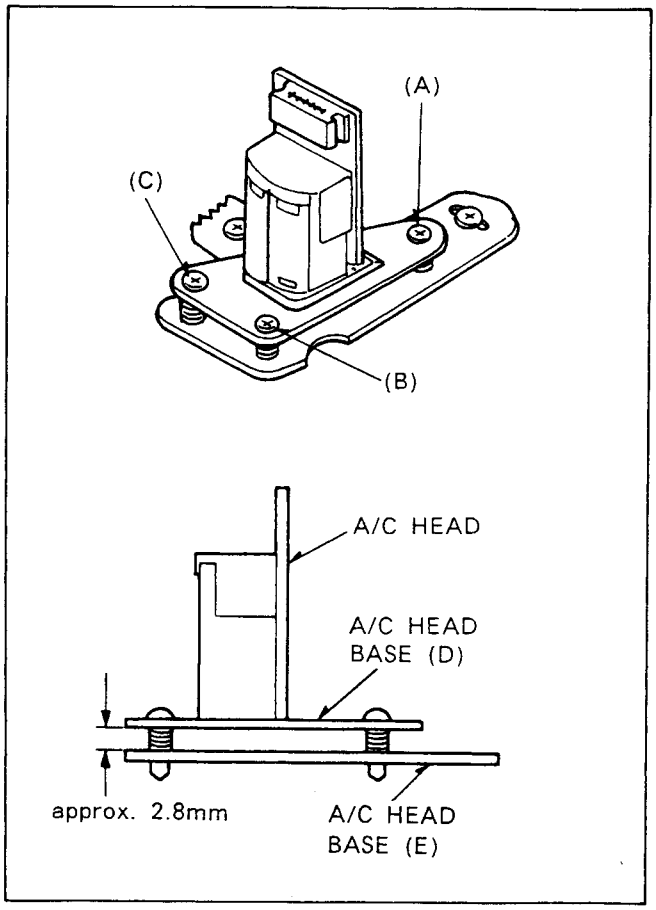
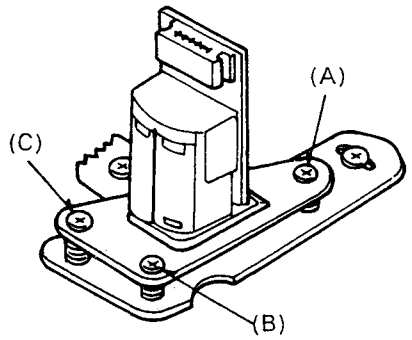
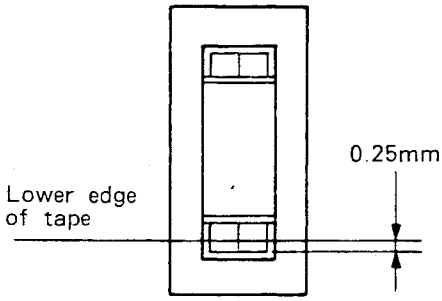


Fig. M12

(3) Height Adjustment of A/C Head (2)

1) Playback the alignment tape.
2) Rotate the screw (A) or (B) until the wrinkle appears on the lower edge of tape at P4 post.
3) Rotate the screw (A) or (B) until the wrinkle just disappears on the lower edge of tape at P4 post.
4) Connect the oscilloscope to audio output terminal.
5) Rotate the screw (C) until audio signal is maximized.





	SCREW (A)	SCREW (B)
So wrinkle appears on the lower edge of tape	COUNTER CLOCKWISE	CLOCKWISE
So wrinkle disappears on the lower edge of tape	CLOCKWISE	COUNTER CLOCKWISE

Fig. M13

(4) Fine-Adjustment of A/C HEAD

<When moving the A/C HEAD up>

1) Rotate the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 post.
2) Rotate the screw (B) counterclockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) counterclockwise until the audio signal is maximized.

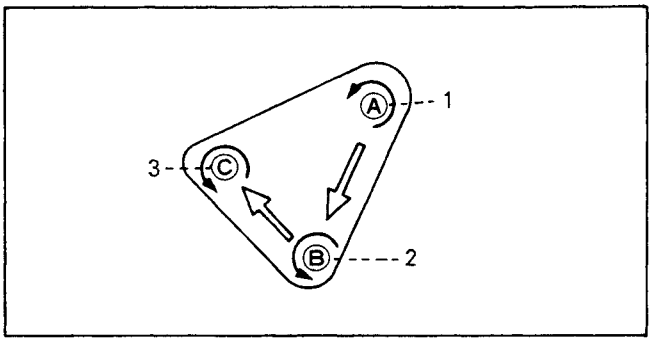


Fig. M14

<When moving the A/C HEAD down>

1) Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape a P4 post.
2) Rotate the screw (A) clockwise until the wrinkle just disappears on the lower edge of tape at P4 post.
3) Rotate the screw (C) clockwise until the audio signal is miximized.

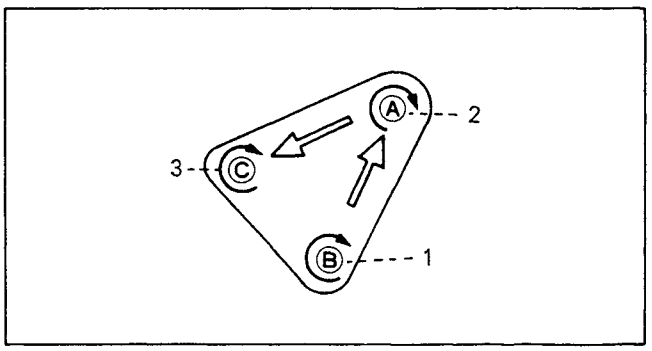


Fig. M15

(5) Horizontal Position Adjustment of A/C HEAD

1) Set the tracking control into the centre fix position. (by pressing the tracking (+) and (−) button simultaneously on the Remote Controller)
2) Connect the oscilloscope to the output of the Head Amp as shown in Fig.M7.
3) Playback the alignment tape.
4) Loosen the 2 screws (F) and (G).
5) Adjust the A/C HEAD BASE (E) until the RF envelope waveform is maximized.

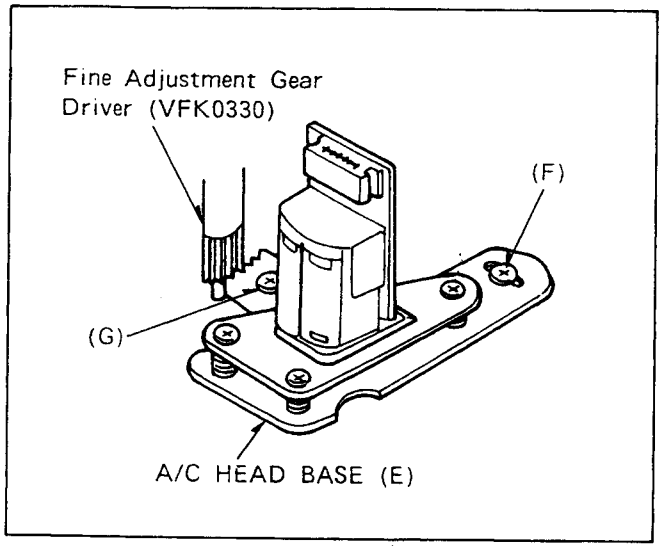


Fig. M16

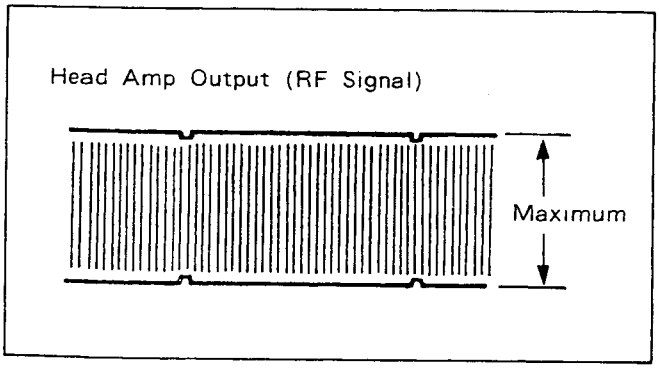
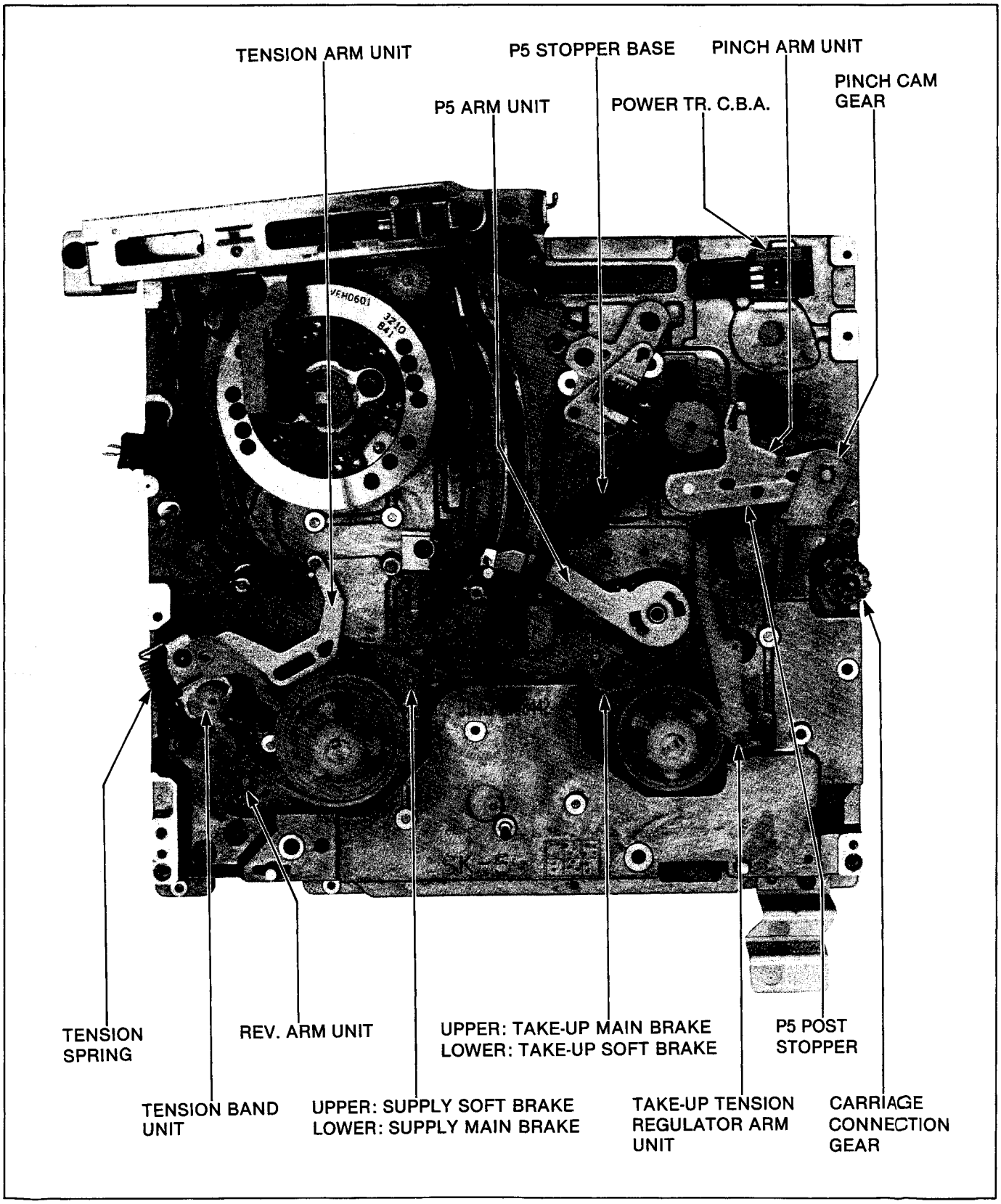


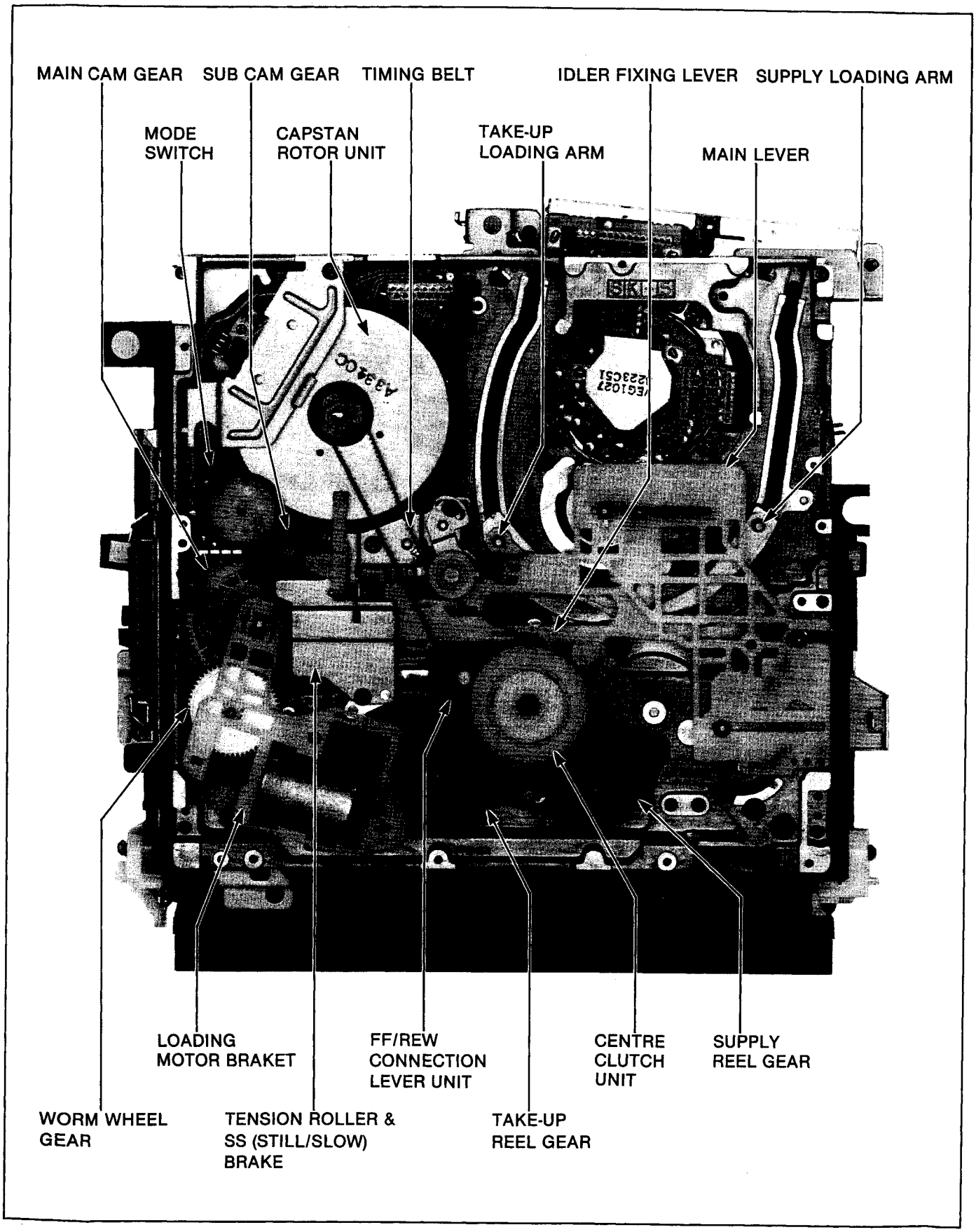
Fig. M17

3. DISASSEMBLY PROCEDURES OF MECHANISM

In order to remove the mechanism components it is first necessary to remove the mechanism chassis.



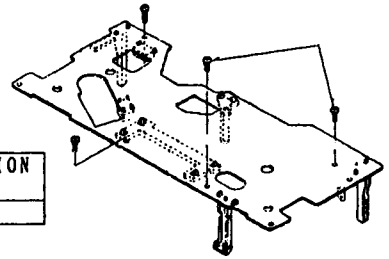
TOP VIEW OF K-MECHANISM



BOTTOM VIEW OF K-MECHANISM

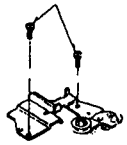
PARTS ACCESS CHART

This chart shows the parts nessessary to gain acess to other parts.



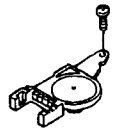
MECHANISM CONNECTION
C. B. A.
Screw...4pcs.

TENSION ROLLER &
SS BRAKE UNIT
Screw...2pcs.



LOADING MOTOR BRACKET
Screw...1pc.
•Locking tab...1pc.

MODE SWITCH
Screw...1pc.
•Phase Adj.

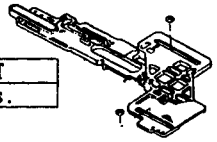


TIMING BELT

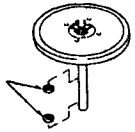
WORM WHEEL GEAR

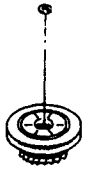
CAPSTAN STOPPER
Screw...1pc.

MAIN LEVER UNIT
Cut Washer...2pcs.



CAPSTAN ROTOR
•Oil Seal...2pcs.
•Mecha. Adj

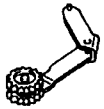




CENTRE CLUTCH
Cut Washer...1pc.

T/S LOADING GEAR

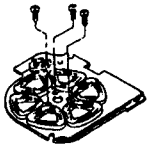
CONNECTION LEVER



IDLER REGULATOR LEVER

MAIN CAM GEAR
•Phase Adj.

CAPSTAN STATOR
Screw...3pcs.

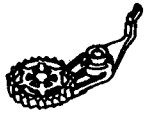


T REEL GEAR

S REEL GEAR

SUB CAM GEAR
•Phase Adj.

IDLER ARM UNIT



3-1. REMOVAL OF THE MECHANISM CHASSIS

1) Remove the 2 screws(A) push the HOLDER PLATE slightly to the rear of mechanism.
2) Remove the screw(B).
3) Disconnect all cables and connectors on the mechanism chassis and connector P6003 on the MAIN C.B.A.(connecting to DEW SENSOR). (Use extreme care when disconnecting the P1508)
4) Lift the mechanism chassis out of the unit.

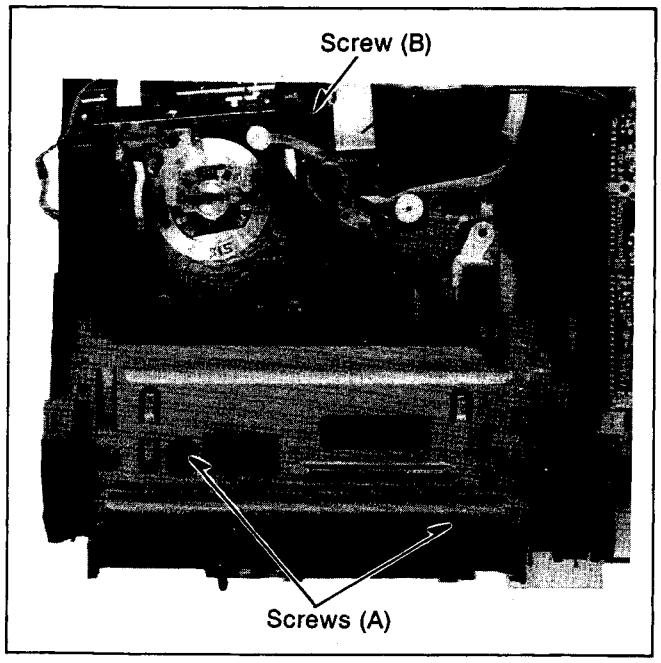


Fig. A1

3-2. REMOVAL OF THE MECHANISM CONNECTION C.B.A.

1) Remove the 4 screws(C).
2) Lift up on the C.B.A.

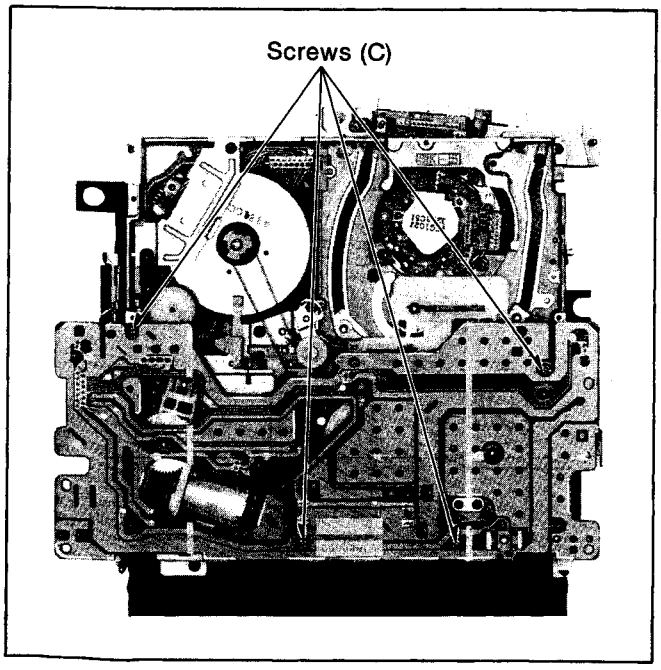


Fig. A2

3-3. REMOVAL OF THE TENSION ROLLER AND SS BRAKE

1) Remove the 2 screws(D).
2) Remove the TENSION ROLLER and the SS BRAKE.

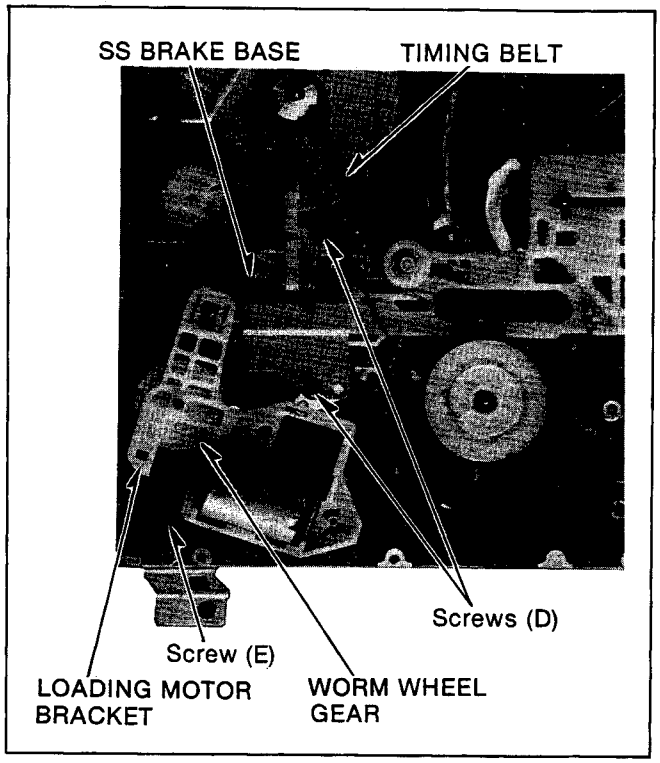


Fig. A3

3-4. REMOVAL OF THE TIMING BELT

1) Remove the TIMING BELT.

3-5. REMOVAL OF THE LOADING MOTOR BRACKET

1) Remove the screw(E) as shown in Fig.A3.
2) Disconnect the locking tab on the right by pushing the locking tab in as shown in Fig.A4.
3) Lift up on the LOADING MOTOR BRACKET and push the BRACKET towards the MAIN CAM GEAR as shown in Fig.A3.
4) Lift the WORM WHEEL GEAR off the shaft.

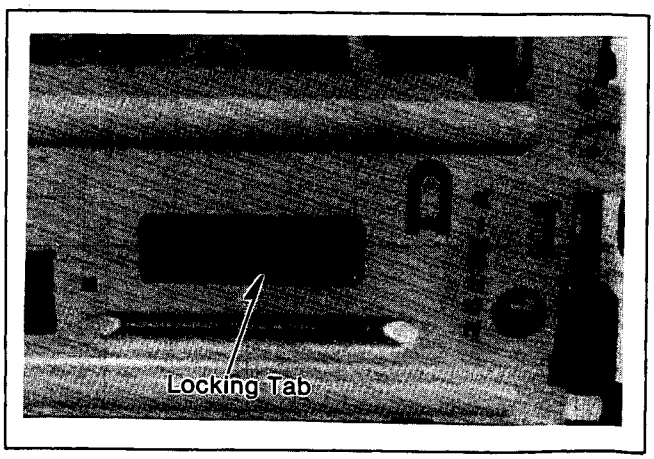


Fig. A4

3-6. REMOVAL OF THE MAIN LEVER UNIT

1) Remove the 3 cut washers.
2) Remove the MAIN LEVER UNIT.

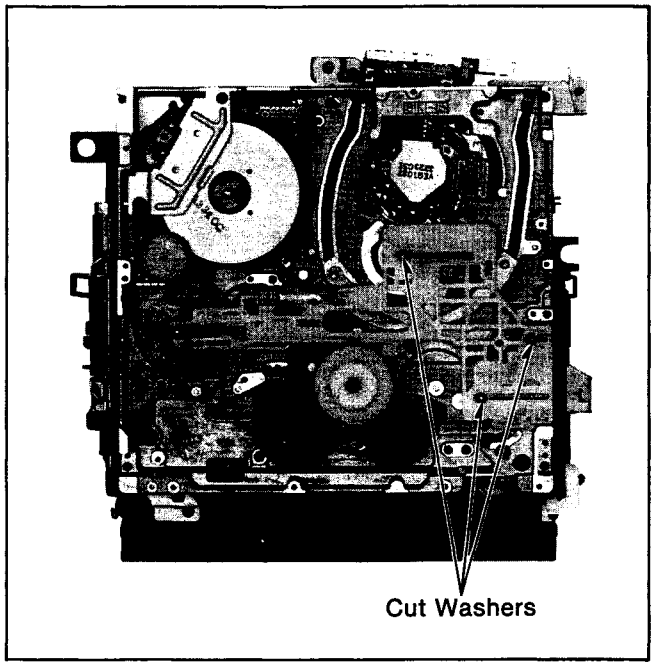


Fig. A5

3-7. REMOVAL OF THE TAKE-UP AND SUPPLY LOADING ARMS

1) Remove the TAKE-UP and SUPPLY LOADING GEARs by lifting them up off the post.

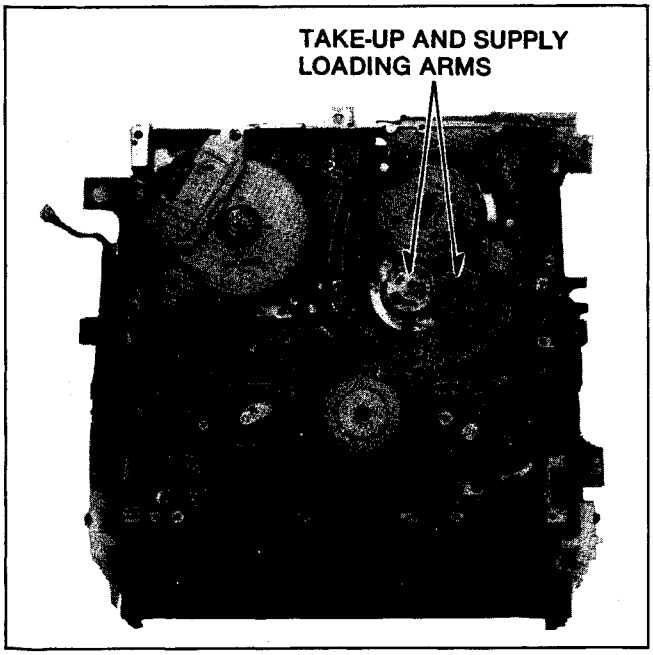


Fig. A6

3-8. REMOVAL OF THE MODE SWITCH

1) Remove screw(F).
2) Remove the MODE SWITCH.

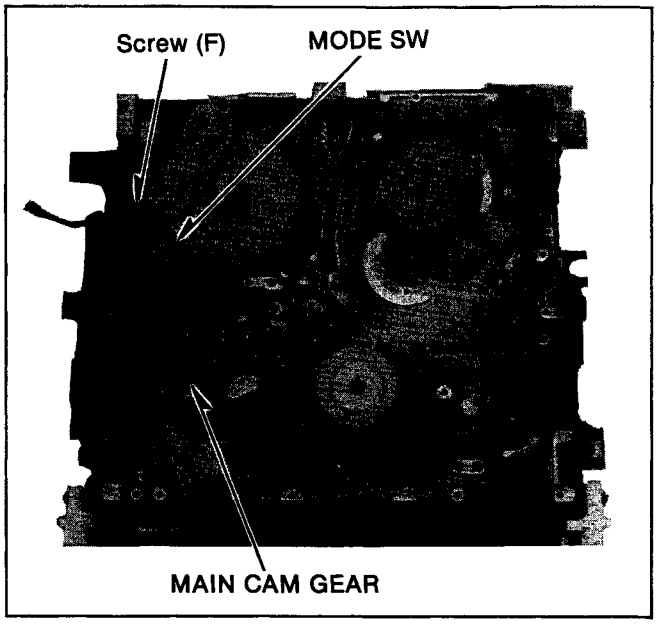


Fig. A7

3-9. REMOVAL OF THE MAIN CAM GEAR

1) Lift the MAIN CAM GEAR off the shaft.

3-10. REMOVAL OF THE CAPSTAN ROTOR UNIT

1) Remove the screw(G) and remove the CAPSTAN STOPPER as shown in Fig.A8.

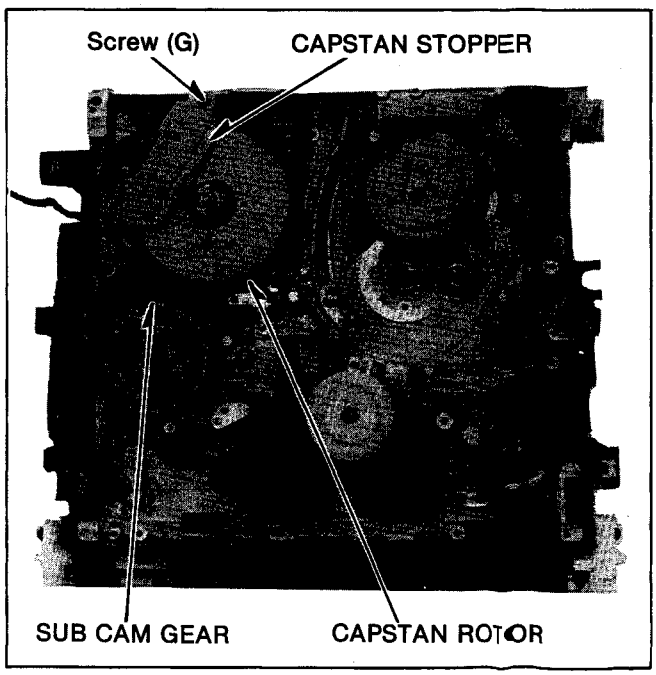


Fig. A8

2) Pull out the CAPSTAN ROTOR.
(When the CAPSTAN ROTOR is removed, 2 OIL SEALs are left in the CAPSTAN ROTOR HOUSING Fig.A9.. To avoid losing the OIL SEALs, place them back on the CAPSTAN SHAFT.)

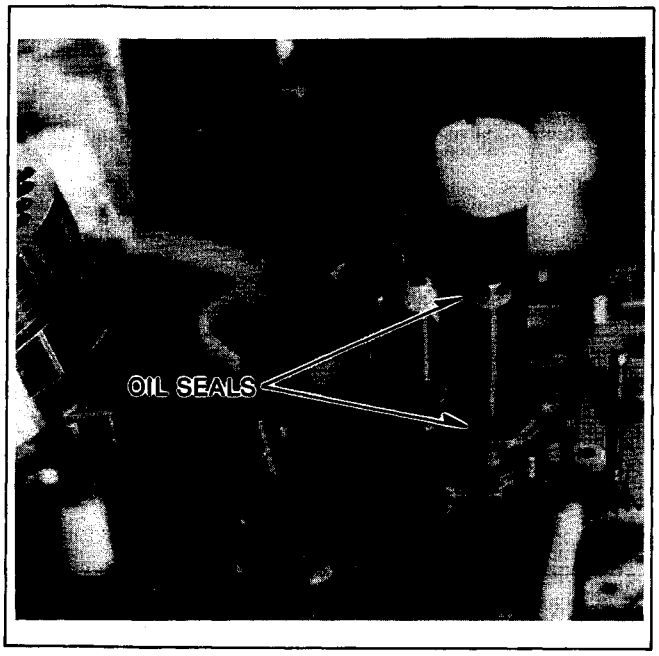


Fig. A9

3) Remove the 3 screws(H) and remove the CAPSTAN STATOR as shown in Fig.A10.

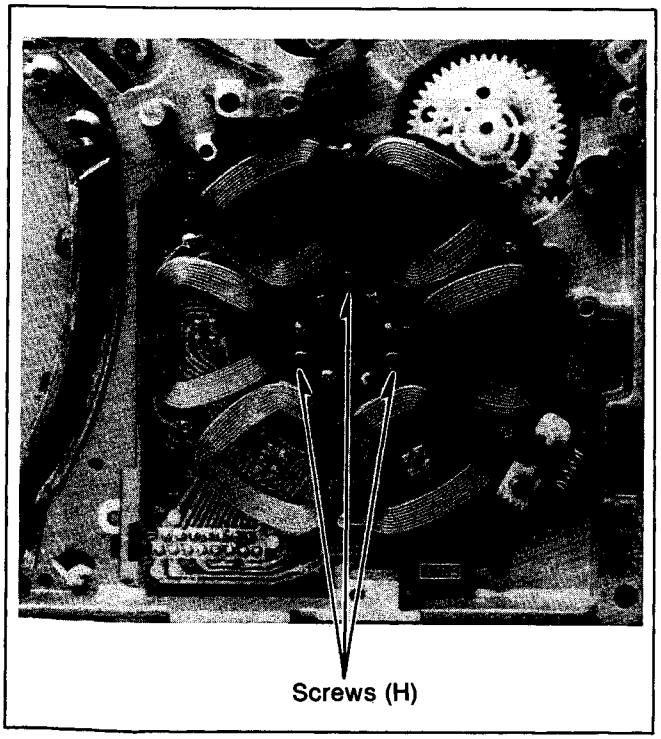


Fig. A10

3-11. REMOVAL OF THE SUB CAM GEAR

1) Lift the SUB CAM GEAR off the shaft.

3-12. REMOVAL OF THE CENTRE CLUTCH

1) Remove the cut washer.
2) Remove the CENTRE CLUTCH.

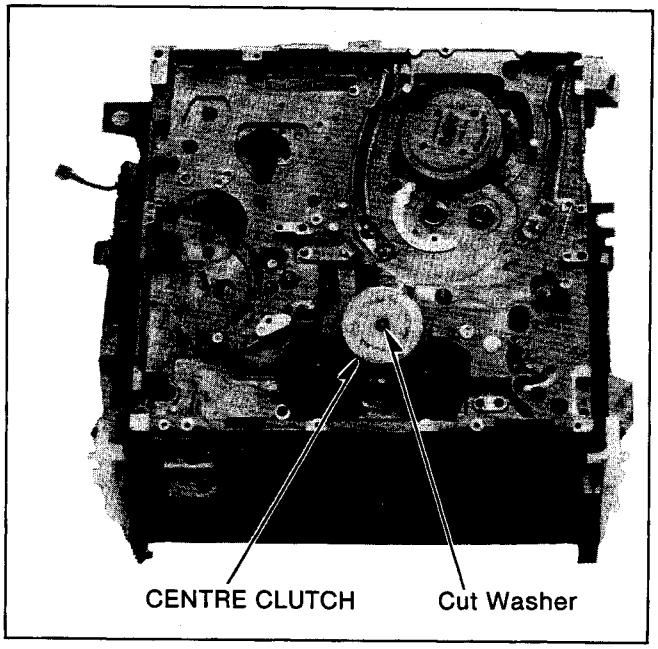


Fig. A11

3-13. REMOVAL OF THE TAKE-UP AND SUPPLY REEL GEARS

1) Unlock the locking tab and lift up on the reel.

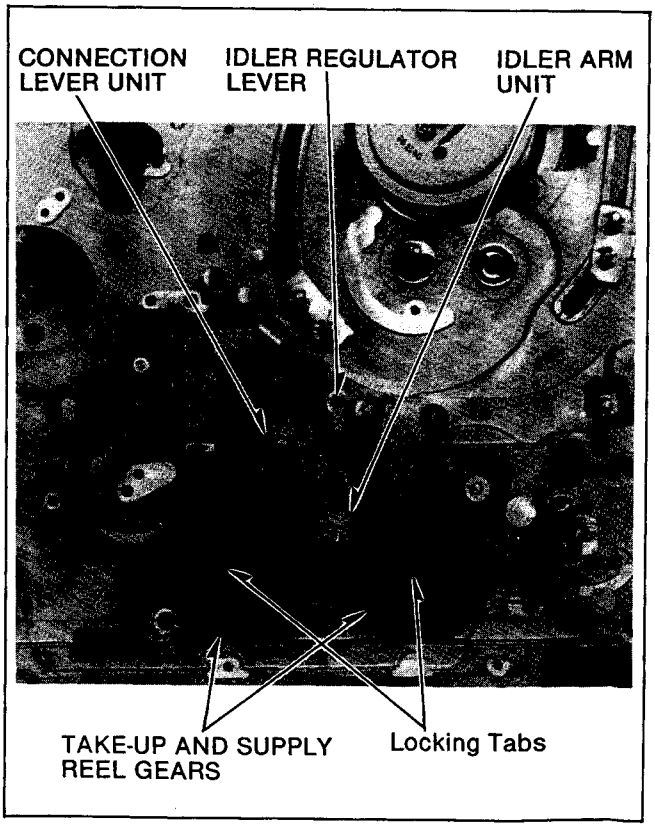


Fig. A12

3-14. REMOVAL OF THE IDLER ARM UNIT, CONNECTION LEVER UNIT AND IDLER REGULATOR LEVER

1) Lift the IDLER ARM UNIT and CONNECTION LEVER UNIT off the shaft.
2) Remove the IDLER REGULATOR LEVER.

3-15. REMOVAL OF THE TOP PLATE

1) Push the locking tabs from the outer side to inside as shown in Fig.A13.
2) Lift up on the TOP PLATE.

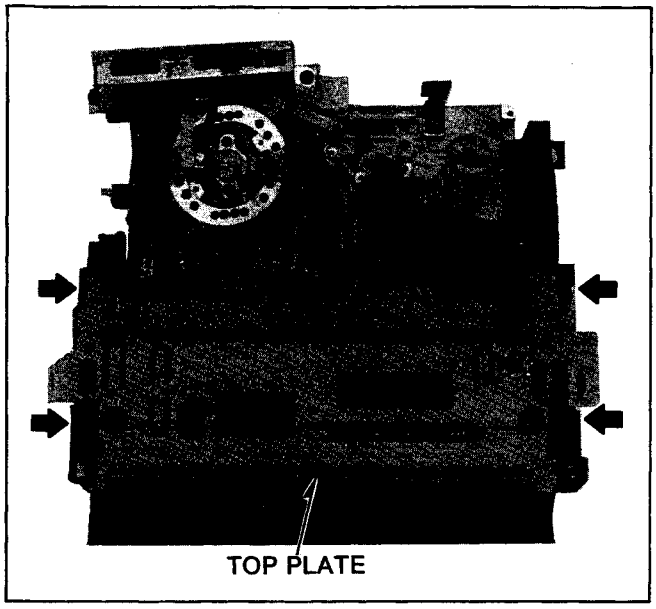


Fig. A13

NOTE:
If locking tab is broken, TOP PLATE can be installed by screws(XTB26+8G) as shown in Fig.A14.

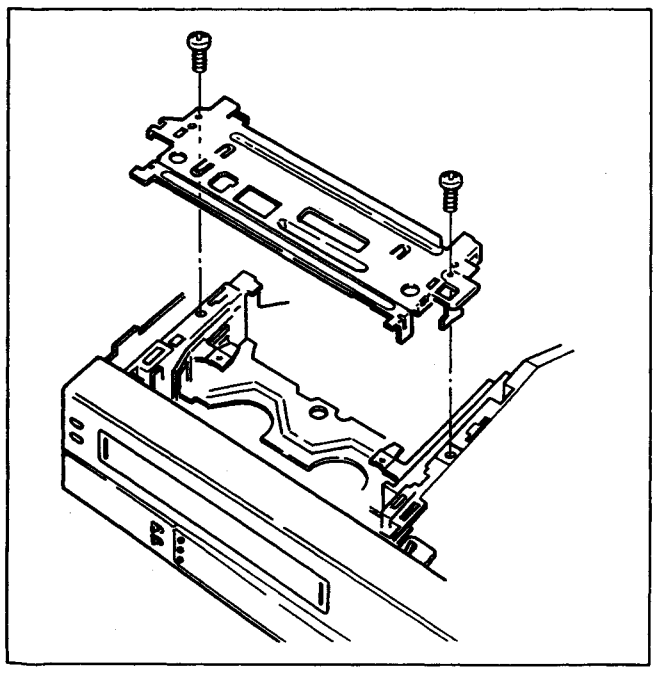


Fig. A14

3-16. REMOVAL OF THE CASSETTE HOLDER

1) Slide the HOLDER PLATE in the rear and lift up.
2) Remove the 4 screws(I).
3) Remove the CASSETTE HOLDER.

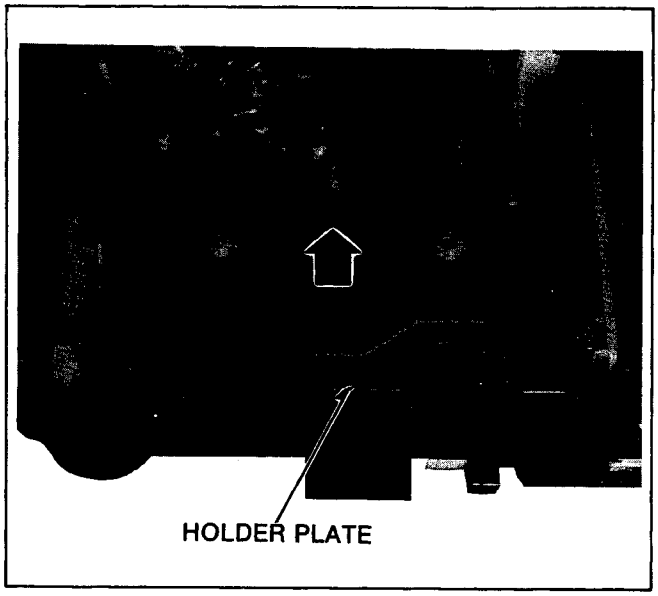


Fig. A15

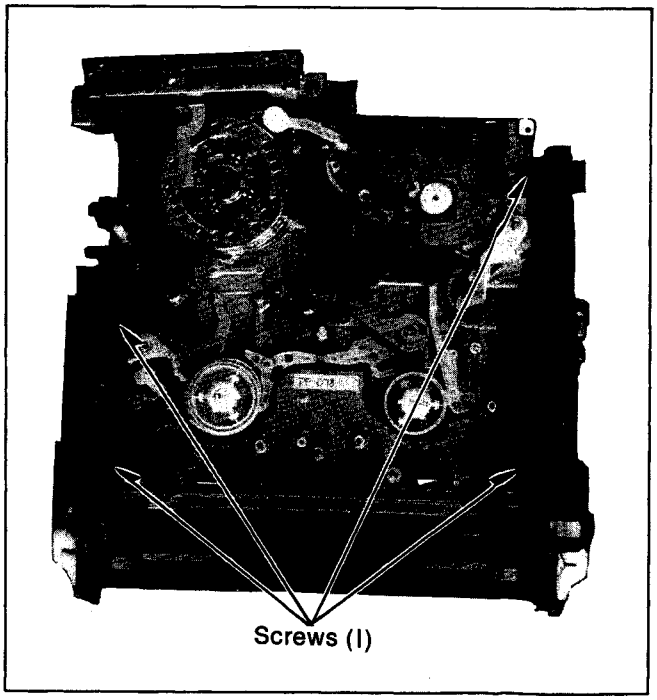


Fig. A16

3–17. REMOVAL OF THE PINCH ARM UNIT

1) Unlock the locking tab on the OPENER PIECE and remove it from the shaft.
2) Remove the PINCH ARM UNIT from the shaft.

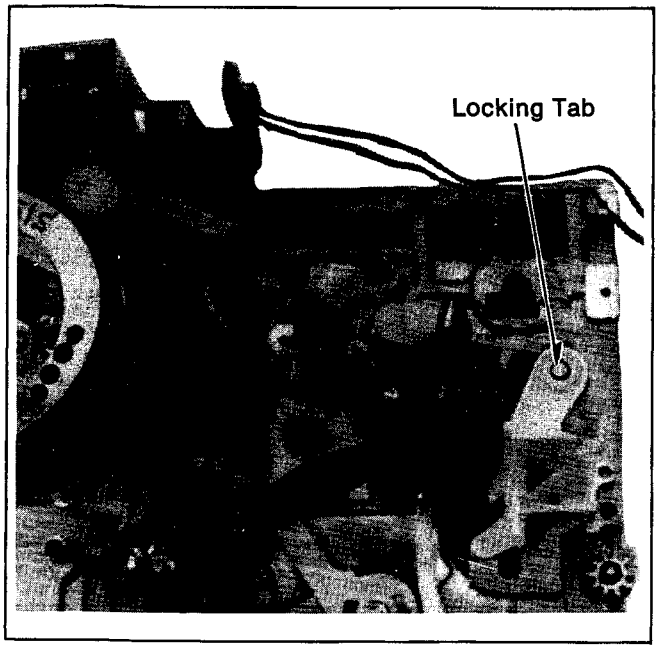


Fig. A17

3–18. REMOVAL OF THE PINCH CAM GEAR AND P5 ARM UNIT

1) Unlock the locking tab of the P5 STOPPER and remove the P5 STOPPER.
2) Remove the screw(J) and the cut washer.
3) Remove the P5 STOPPER BASE.
4) Remove the PINCH CAM GEAR and P5 ARM UNIT.

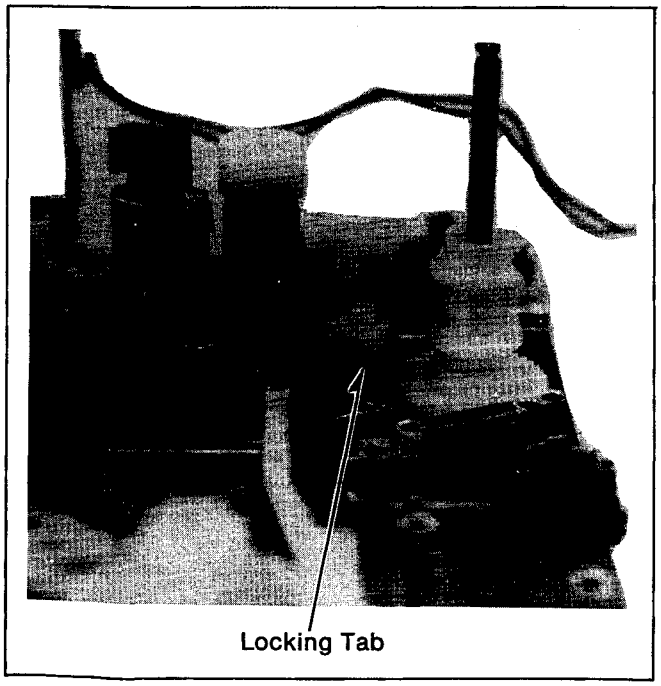


Fig. A18

Fig. A19

3–19. REMOVAL OF THE TAKE-UP TENSION REGULATOR ARM UNIT

1) Disconnect the spring from the bottom of the chassis.
2) Unlock the locking tab and lift the TAKE-UP TENSION REGULATOR ARM UNIT off the shaft.

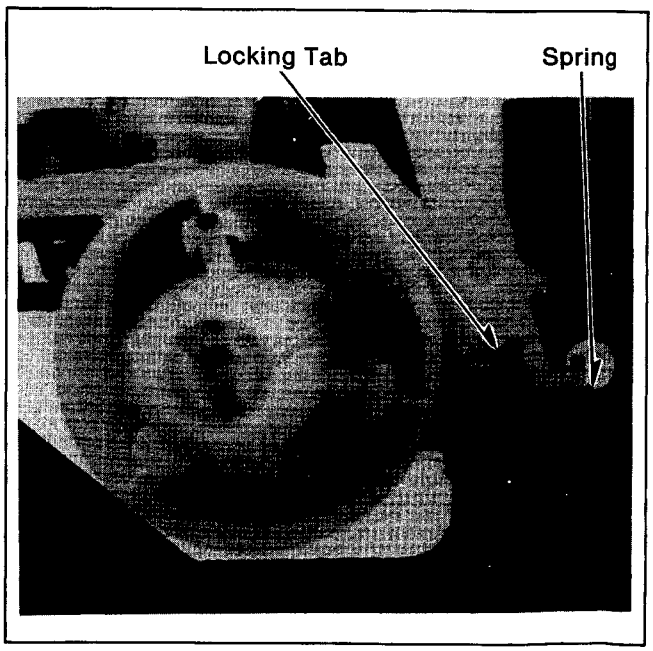


Fig. A20

3-20. REMOVAL OF THE CARRIAGE CONNECTION GEAR

1) Remove the cut washer.
2) Lift the CARRIAGE CONNECTION GEAR off the shaft.

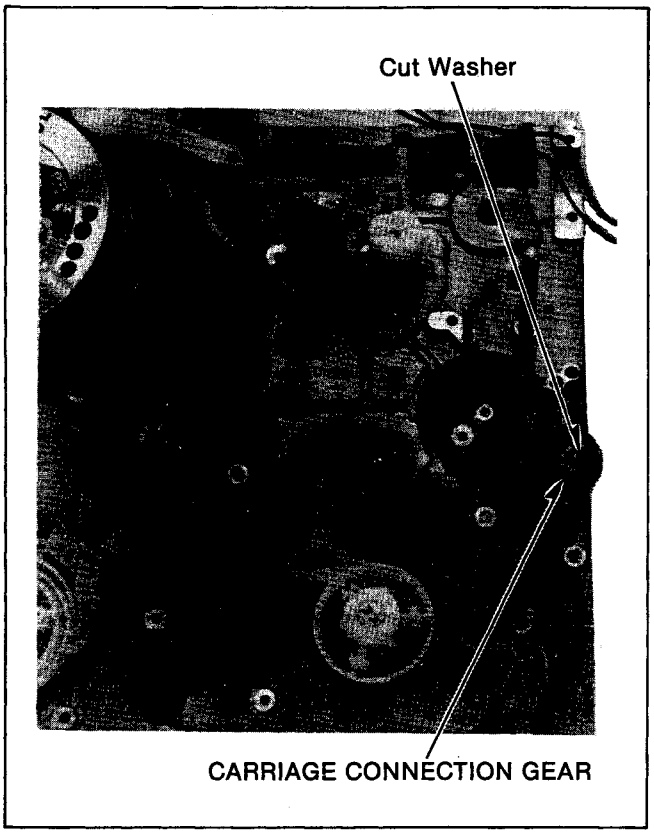


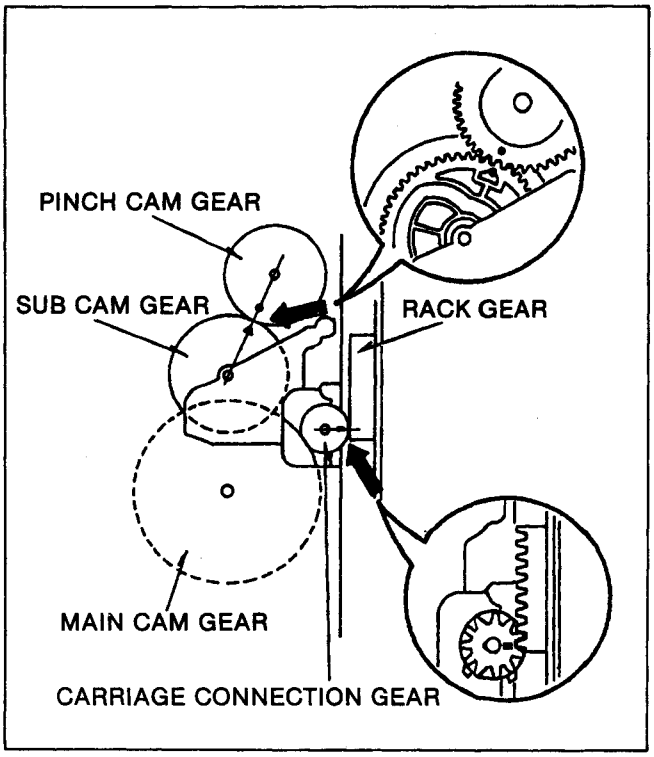
Fig. A21

4. ASSEMBLY PROCEDURES OF MECHANISM

4-1. VIEW OF PHASE ALIGNMENT

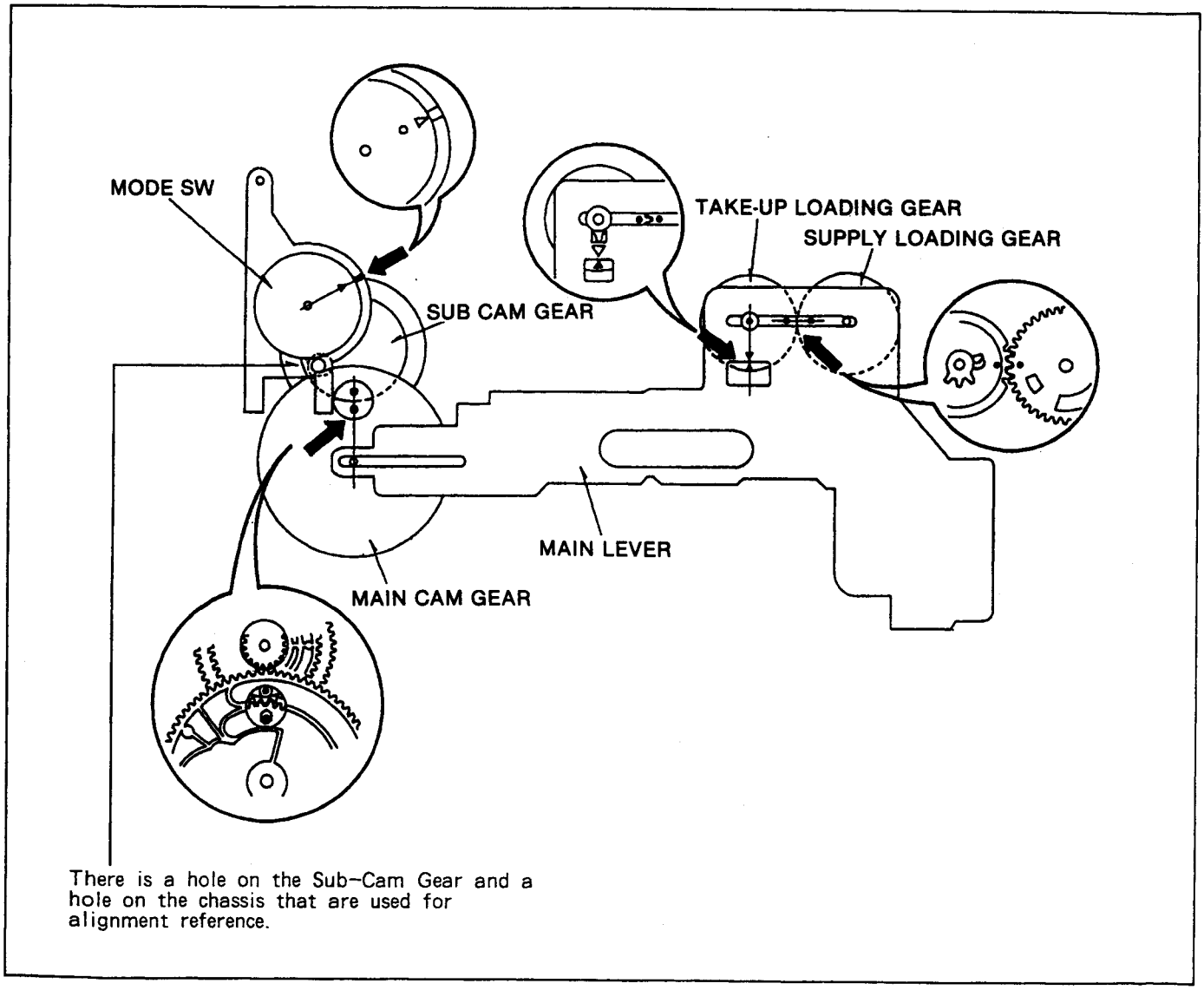
The gear phase alignment is performed in the cassette down position and is crucial for the K-Mechanism to operate correctly.

1) Top View of Gear Phase Alignment Marks.
There are alignment marks on the Pinch Cam Gear and Sub Cam Gear. There is one alignment mark on the carriage connection gear.



Top View of Gear Phase Alignment

2) Bottom View of Gear Phase Alignment Marks.
There are alignment marks on Take-up Loading Gear and Supply Loading Gear.
There is an additional mark on the Take-up Loading Gear that aligns with the mark on the main lever. There are alignment marks on the Main Cam Gear and the Sub Cam Gear. The mode switch gear mark aligns with a notch in the mode switch frame.



Bottom View of Gear Phase Alignment

4–2. ASSEMBLY OF THE CARRIAGE CONNECTION

1) Install the CARRIAGE CONNECTION GEAR as shown in Fig.A21.
2) Install the cut washer.

4–3. ASSEMBLY OF THE TAKE–UP TENSION REGULATOR ARM UNIT, P5 ARM UNIT PINCH CAM GEAR, P5 STOPPER BASE, P5 STOPPER, PINCH CAM UNIT AND OPENER PIECE

1) Install the TAKE–UP TENSION REGULATOR ARM UNIT.
2) Hook the spring to hole on the chassis.
3) Install the P5 ARM UNIT and PINCH CAM GEAR.
4) Install the P5 STOPPER BASE with cut washer and screw(J).
5) Install the P5 STOPPER, PINCH ARM UNIT and OPENER PIECE.

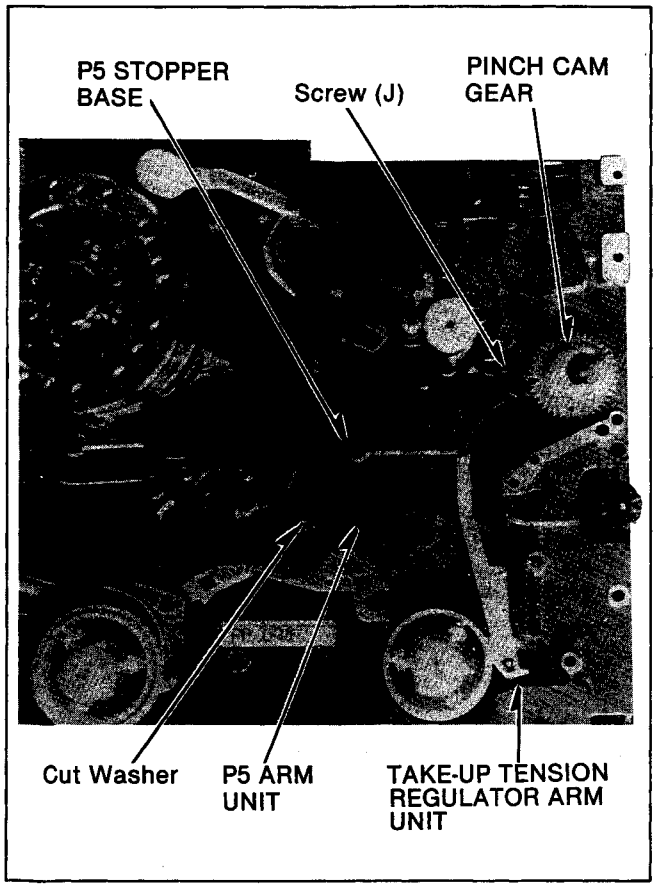


Fig. K1

4–4. ASSEMBLY OF THE IDLER ARM UNIT, TAKE–UP AND SUPPLY REEL GEARS, IDLER REGULATOR LEVER,CONNECTION LEVER UNIT AND CENTRE CLUTCH

1) Install the IDLER UNIT, TAKE–UP and SUPPLY REEL GEARs, IDLER REGULATOR LEVER and CONNECTION LEVER UNIT.
2) Install the CENTRE CLUTCH with cut washer.

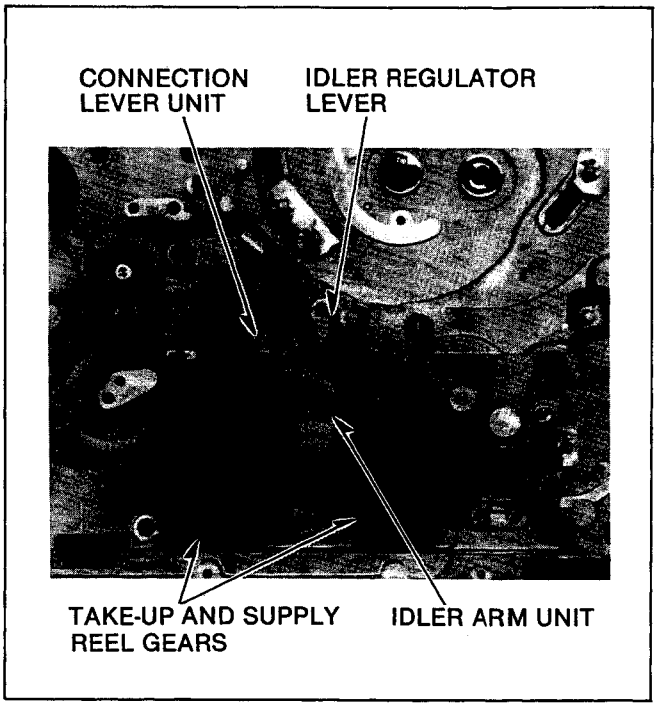


Fig. K2

4–5. ASSEMBLY OF THE SUB CAM GEAR

The SUB CAM GEAR is used for the reference of the phase.

1) Install the SUB CAM GEAR so that the chassis hole aligns with hole in the SUB CAM GEAR. Also, the hole in the outer gear of the SUB CAM GEAR must align with the hole in the PINCH CAM GEAR. The boss on the PINCH ARM must be installed in the cam groove of the SUB–CAM GEAR. This is used for the reference of the phase. To aid installation of the SUB–CAM GEAR insert a fixing pin into the holes of the SUB–CAM GEAR and the chassis.

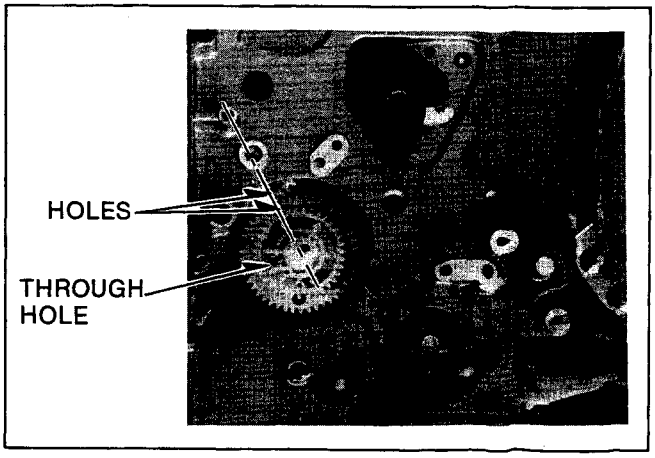


Fig. K3

4-6. ASSEMBLY OF THE STATOR UNIT

1) Place the STATOR UNIT into position. Loosely reinstall the 3 screws that secure the STATOR and HOUSING UNIT. Next insert the CENTERING PIN then tighten the 3 screws as shown in Fig.K4.

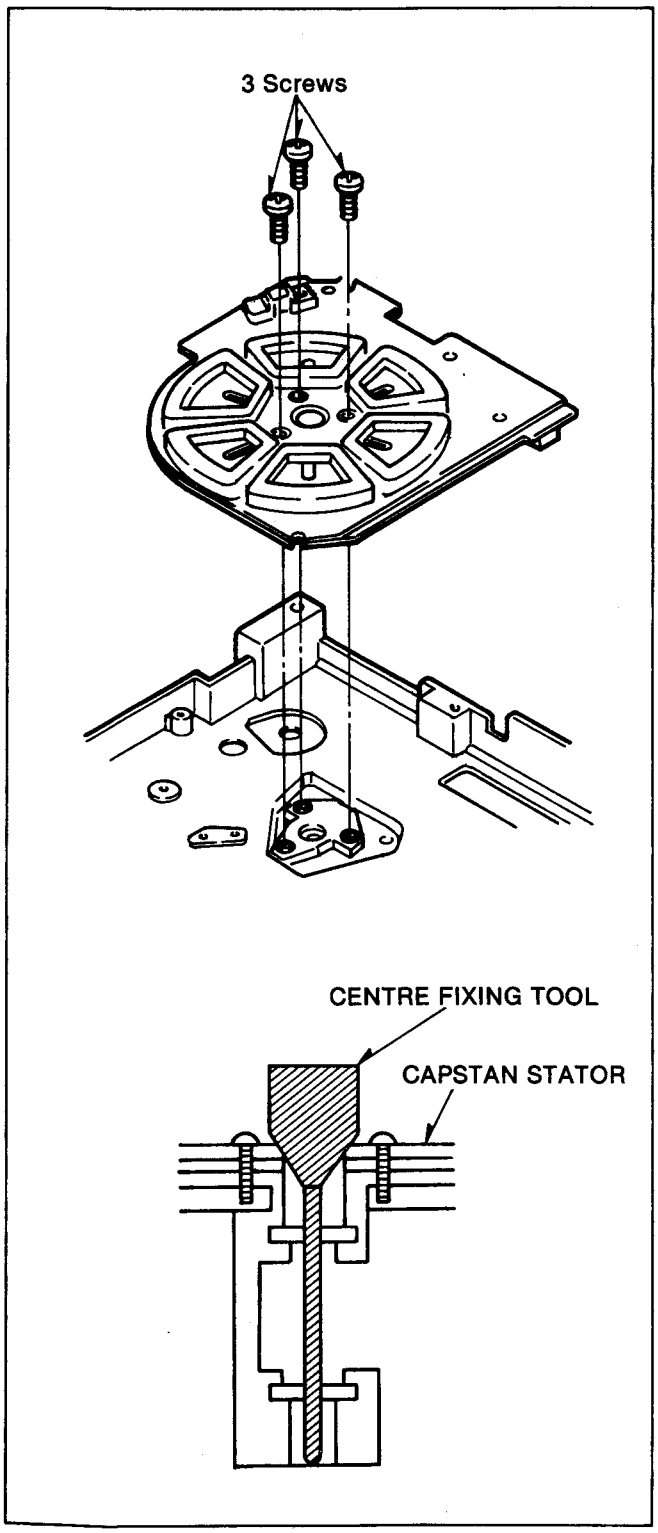


Fig. K4

2) Remove the oil seal from the ROTOR SHAFT Partially install the ROTOR SHAFT into the lower position and install the oil seal. Insert the ROTOR SHAFT further into the housing and install the second OIL SEAL in the upper position. Push the lower OIL SEAL down the ROTOR SHAFT into the housing.

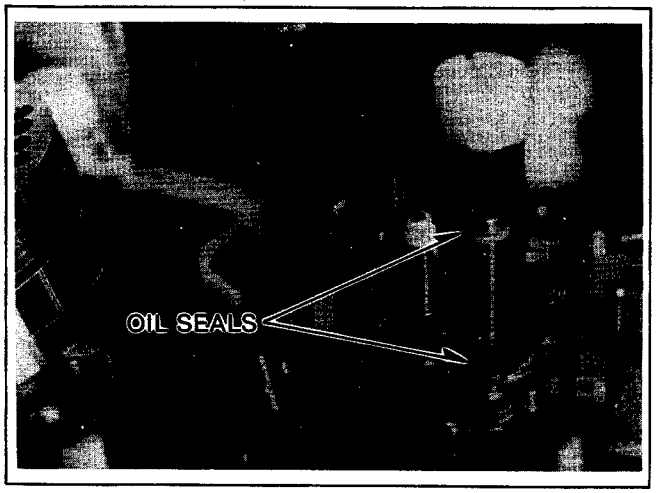


Fig. K5

3) Clean the ROTOR SHAFT after replacement. Reinstall the ROTOR STOPPER and the screw on the top side.

4-7. ASSEMBLY OF THE MAIN CAM GEAR

NOTE:
Before installing the MAIN CAM GEAR, set the CONNECTION GEAR so that the side of the gear with no teeth is towards the MAIN CAM GEAR.

1) Install the MAIN CAM GEAR so that the hole marker aligns with the SUB-CAM GEAR and insert the boss of the TAKE-UP TENSION REGULATOR ARM into the slot on the bottom of the MAIN CAM GEAR.

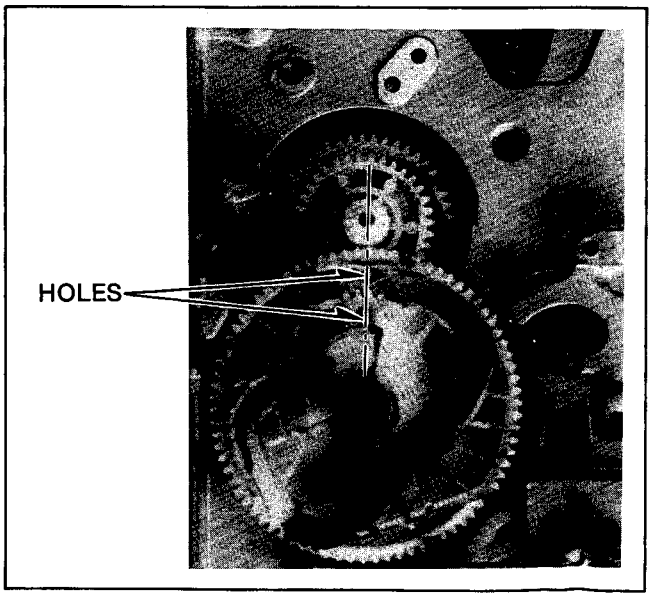


Fig. K6

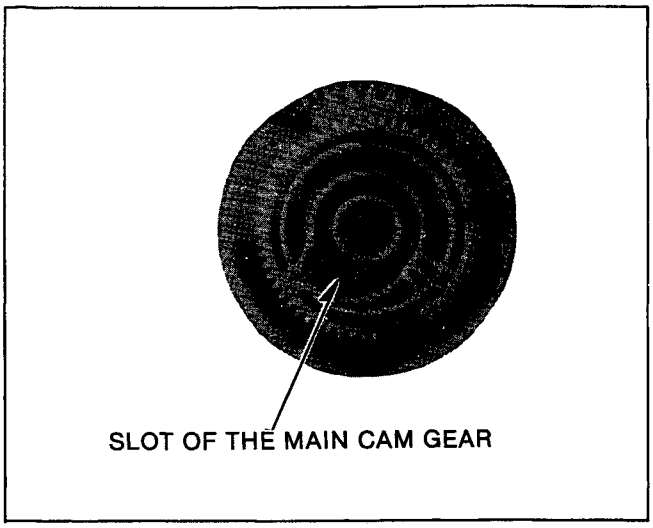


Fig. K7

4-8. ASSEMBLY OF THE MODE SW

1) Align the mark on the MODE SWITCH GEAR with the notch on the MODE SWITCH FRAME.
2) Install the MODE SWITCH taking care that all the phase alignments are correct. Check the CAM GEAR timing by rotating the MAIN CAM GEAR.
3) Install the screw(K) the retains the MODE SWITCH and ROTOR STOPPER.

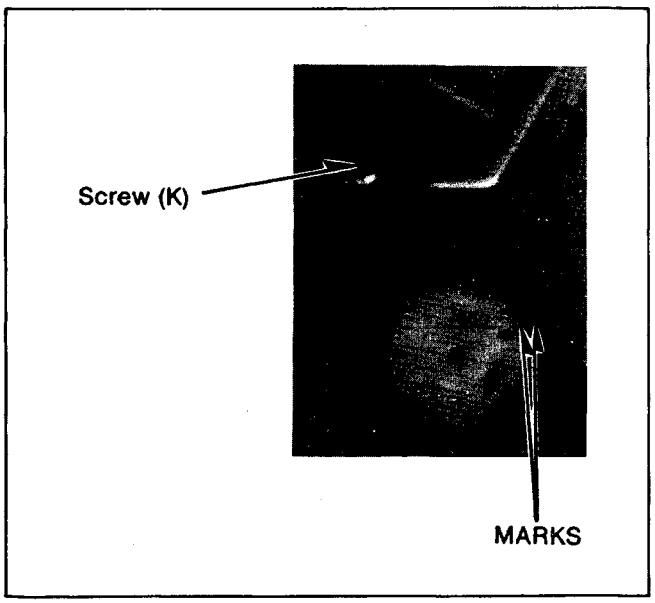


Fig. K8

4-9. ASSEMBLY OF THE T & S LOADING ARMS

1) Set the shaft holders to the unloaded position. Take care that the P5 POST does not interfere with the P3 Post or prevent it from going to the unloaded position. The TENSION ARM must be set to the position that will allow the P2 POST to move back to the unloaded position.

2) Install the TAKE-UP LOADING ARM and SUPPLY LOADING ARM, aligning the marks on the both GEARS.

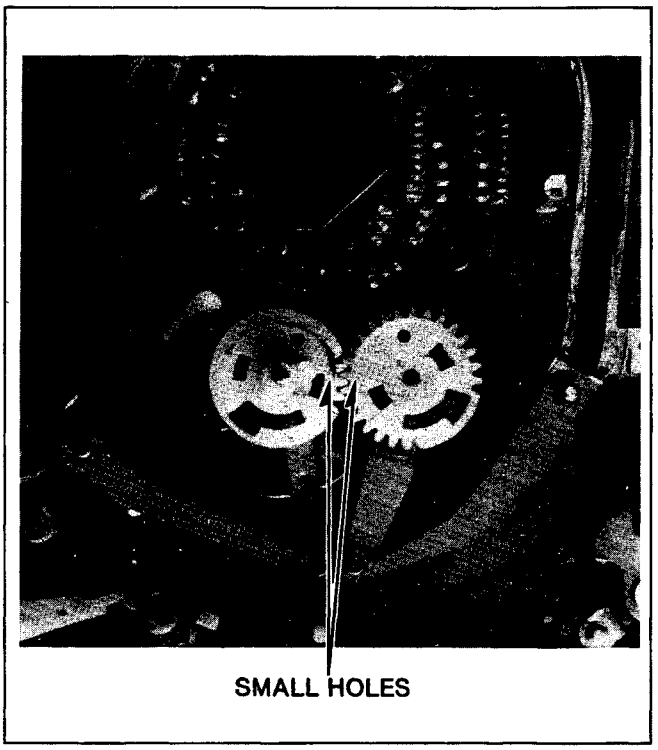


Fig. K9

4–10. ASSEMBLY OF THE MAIN LEVER

1) Install the MAIN LEVER ARM checking that the boss arms and shafts are in the correct position and the mark on the MAIN LEVER ARM is aligned with mark on the TAKE–UP LOADING GEAR.

2) Install the 3 cut washers.

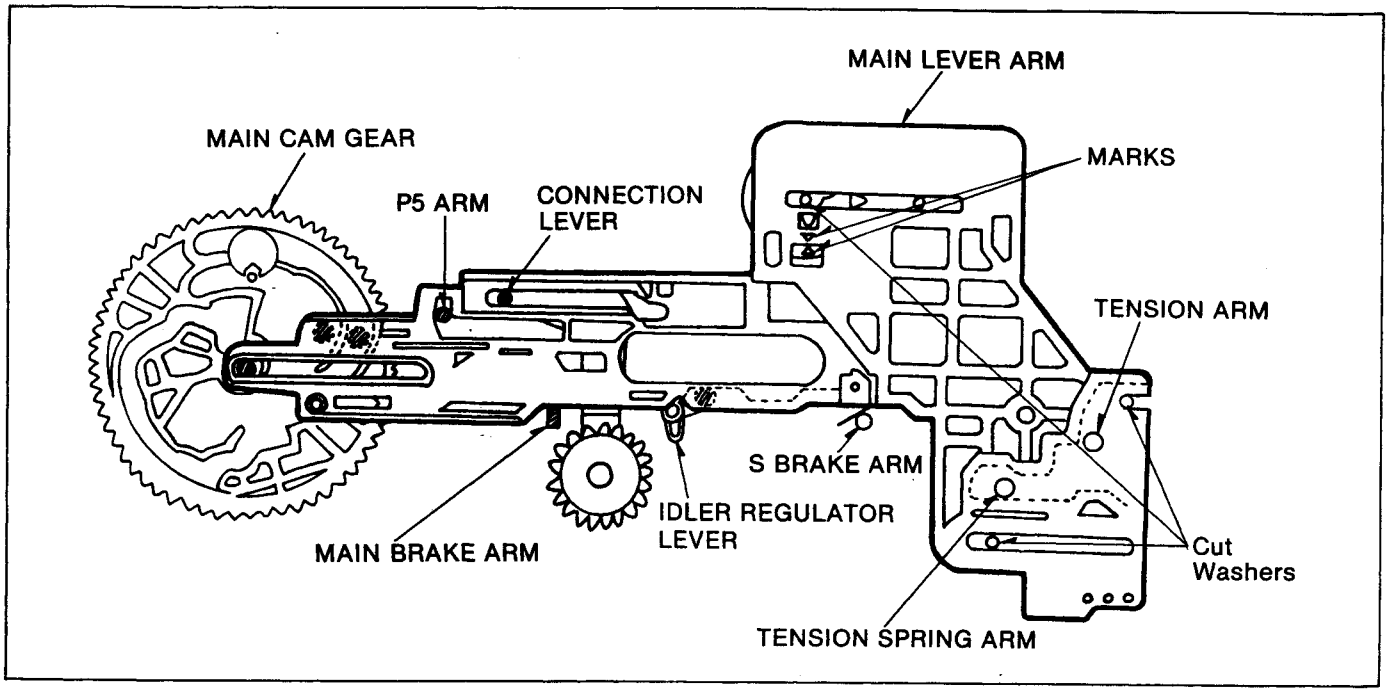


Fig. K10

4–11. ASSEMBLY OF THE WORM WHEEL GEAR & LOADING MOTOR BRACKET

1) Reinstall the WORM WHEEL GEAR.

2) Install the LOADING MOTOR BRACKET. First set the BRACKET over the MAIN CAM GEAR shaft and slide until it locks. Then push down on the BRACKET until the locking tab is connected to the chassis. Reinstall the screw(L).

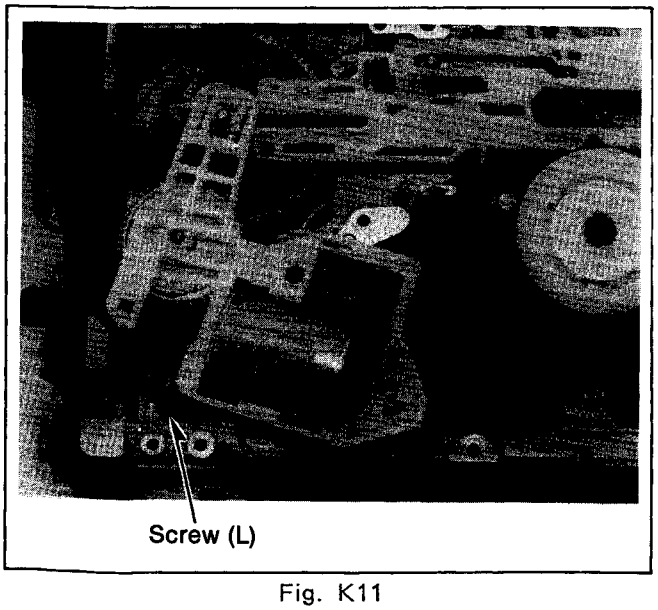


Fig. K11

4–12. ASSEMBLY OF THE TIMING BELT & SS BRAKE BASE

1) Install the TIMING BELT.

2) Put the TIMING BELT onto the TENSION ROLLER, slide the SS BRAKE BASE into position and install 2 screws(M).

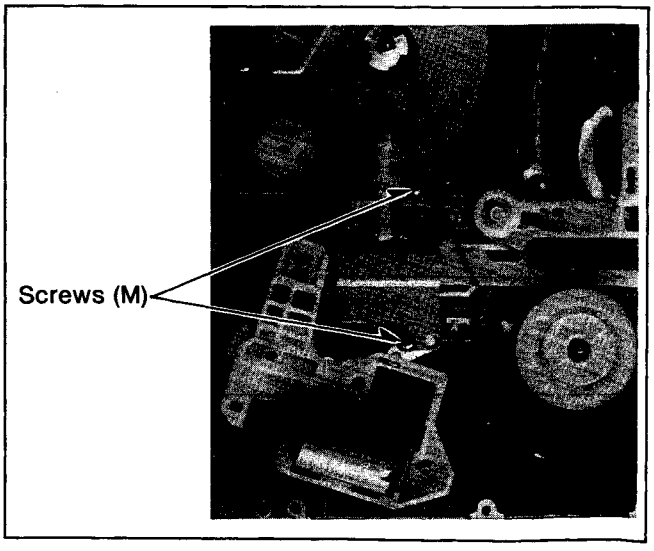


Fig. K12

4–13. ASSEMBLY OF THE PINCH ARM UNIT

1) Install the OPENER PIECE by inserting the boss into the PINCH ARM UNIT. Push down until the lock engages the shaft.

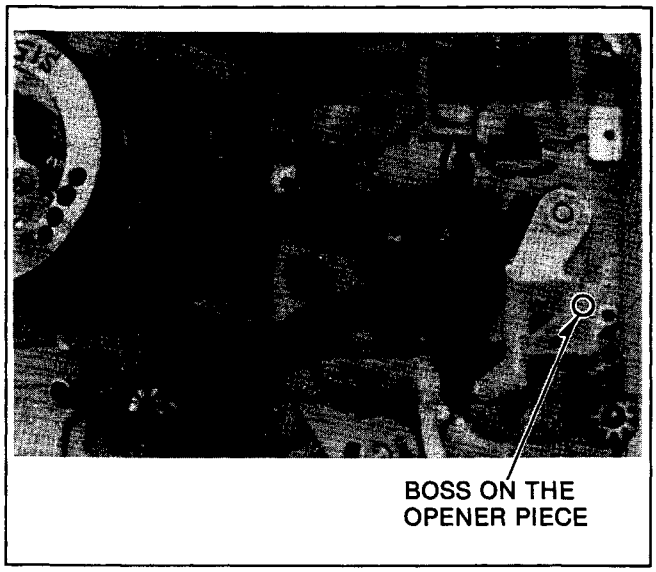


Fig. K13

4–14. CHECKING THE MECHANISM MOVEMENT

1) Check by moving the mechanism by hand then re–check using a battery to power the motor.

2) Rotate the LOADING MOTOR by hand in the loading direction while checking the movement of each gear. If the mechanism operates correctly when moved by hand, connect a battery to the LOADING MOTOR and re–check the movement of each gear as shown in Fig.S1/S2/S3.

3) Connect the battery to check the loading operation and then reverse the battery connection to check the unloading operation.

4) Reverse the battery to move the mechanism to the cassette down position.

4–15. ASSEMBLY OF THE CASSETTE HOLDER

1. A SSEMBLE A CASSETTE HOLDER AS A UNIT COMPLETE UNIT

1) Put the CASSETTE HOLDER into the cassette up condition by moving the WIPER ARM.
2) Turn the LOADING MOTOR by hand in the unloading direction until the CARRIAGE CONNECTION GEAR and the MODE SW is eject position as shown in Fig.K14/K15

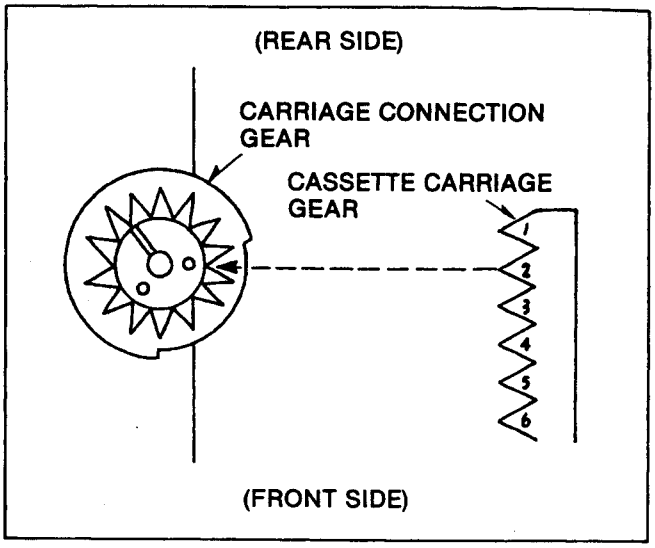


Fig. K14

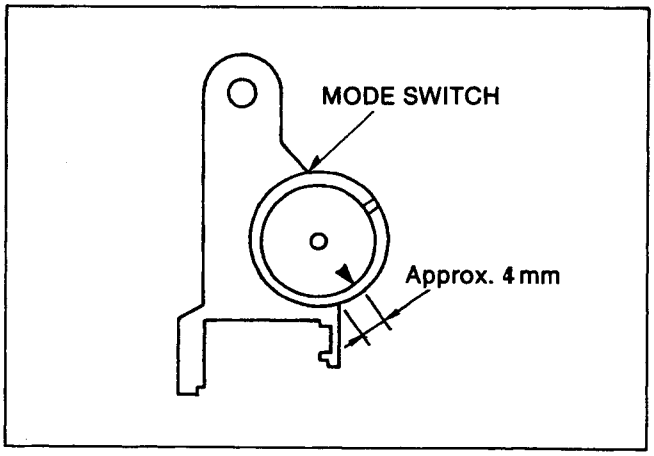


Fig. K15

3) Install the CASSETTE HOLDER UNIT as shown in Fig.K14.
4) Install 4 screws to attach the CASSETTE HOLDER UNIT.

<Eject Operation>

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate to the carriage connection gear by hand in the direction of the arrow.

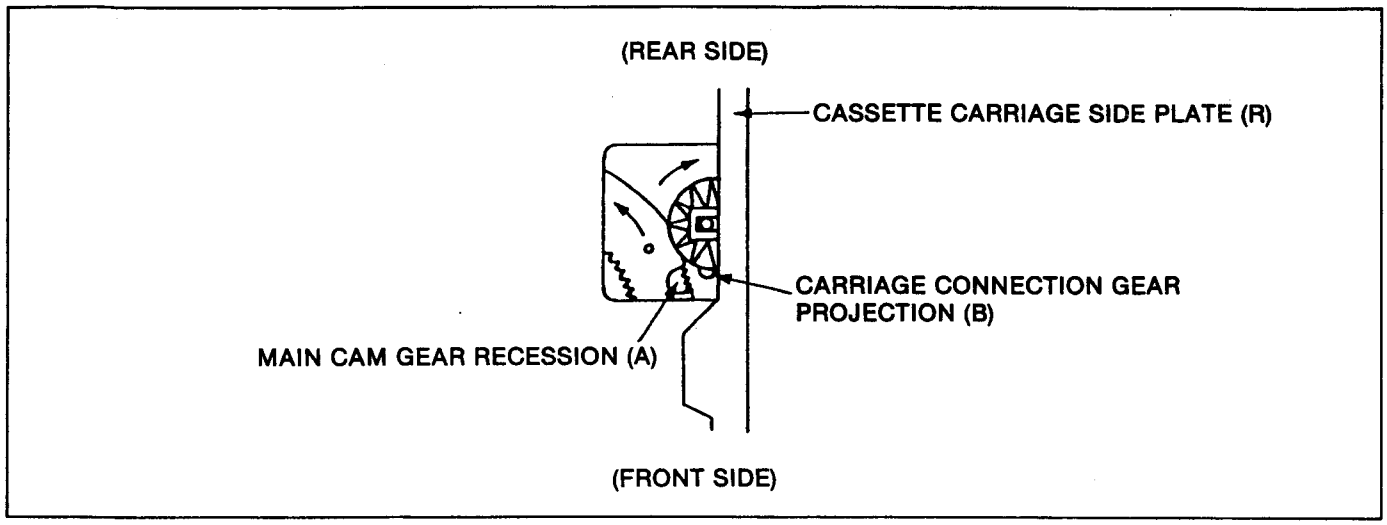


Fig. K16 Top View of Eject Operation

2. ASSEMBLE A CASSETTE HOLDER SEPARATELY

1) Put the CASSETTE HOLDER into the cassette down position by moving the WIPER ARM. Check the position of the WIPER ARM and RACK A. The mark of RACK A aligns with the mark on the WIPER ARM.

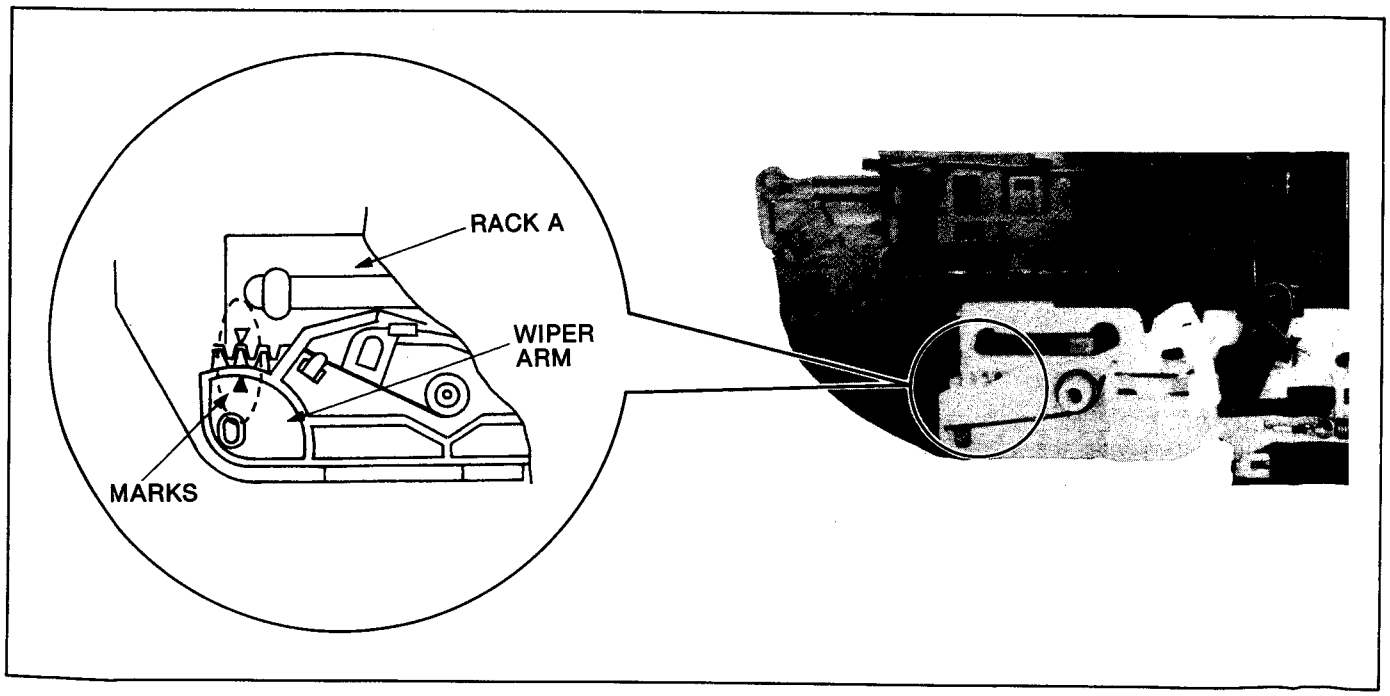


Fig. K17

2) Install the SIDE PLATE ASSEMBLY so that the first gear of RACK B aligns with the mark on the CARRIAGE CONNECTION GEAR.

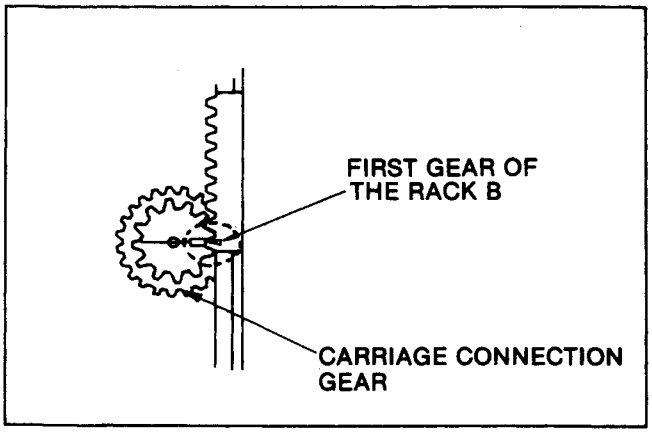


Fig. K18

3) Install 4 screws to attach the SIDE PLATE ASSEMBLY.

4) Turn the LOADING MOTOR by hand to the cassette up position while pushing the WIPER ARM to the cassette up position.

5) Insert the 5 posts on the CASSETTE HOLDER into the Side Plate.

6) Set the TOP PLATE on the Side Plate then push it down until it locks.

4–16. ASSEMBLY OF THE MECHANISM CHASSIS

1) Install the MECHANISM CONNECTION C.B.A. onto the chassis. Then install the chassis into the frame and connect all the cables and connectors.

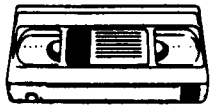
2) Clean the DD CYLINDER after reinstallation.

3) Insert a cassette and adjust the tape travel and check all the operation modes.

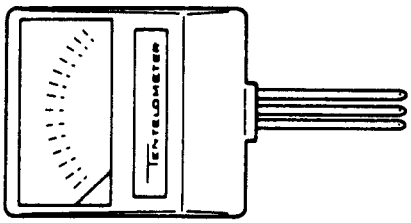
Servicing Fixtures & Tools

VFJ8125H3F
PAL VHS Alignment Tape

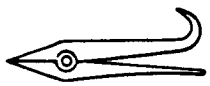
VFM8080HQFP
NTSC VHS Alignment Tape



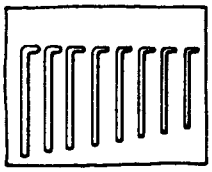
VFK0132
Back Tension Meter
(Tentelometer, Made in U.S.A.)



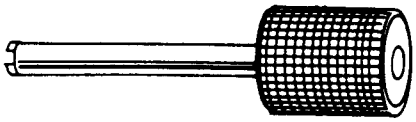
VFK0335
Retaining Ring Remover
(3mm/4mm)



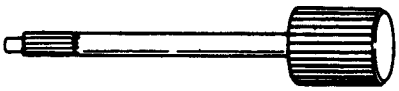
VFK0326
Hex. Wrench Set
(0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm)



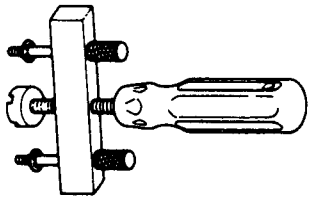
VFK0329
Post Adjustment Screw Driver



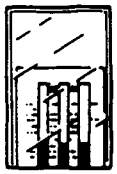
VFK0330
Fine Adjustment Gear Driver



VFK0341
Upper Cylinder Remover

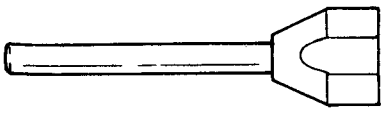


VFK27
Hand Cleaning Stick



MOR265
Morlytone Grease

VFK0851
CENTRE FIXING TOOL



5. PARTS CHANGE

5-1. Parts List

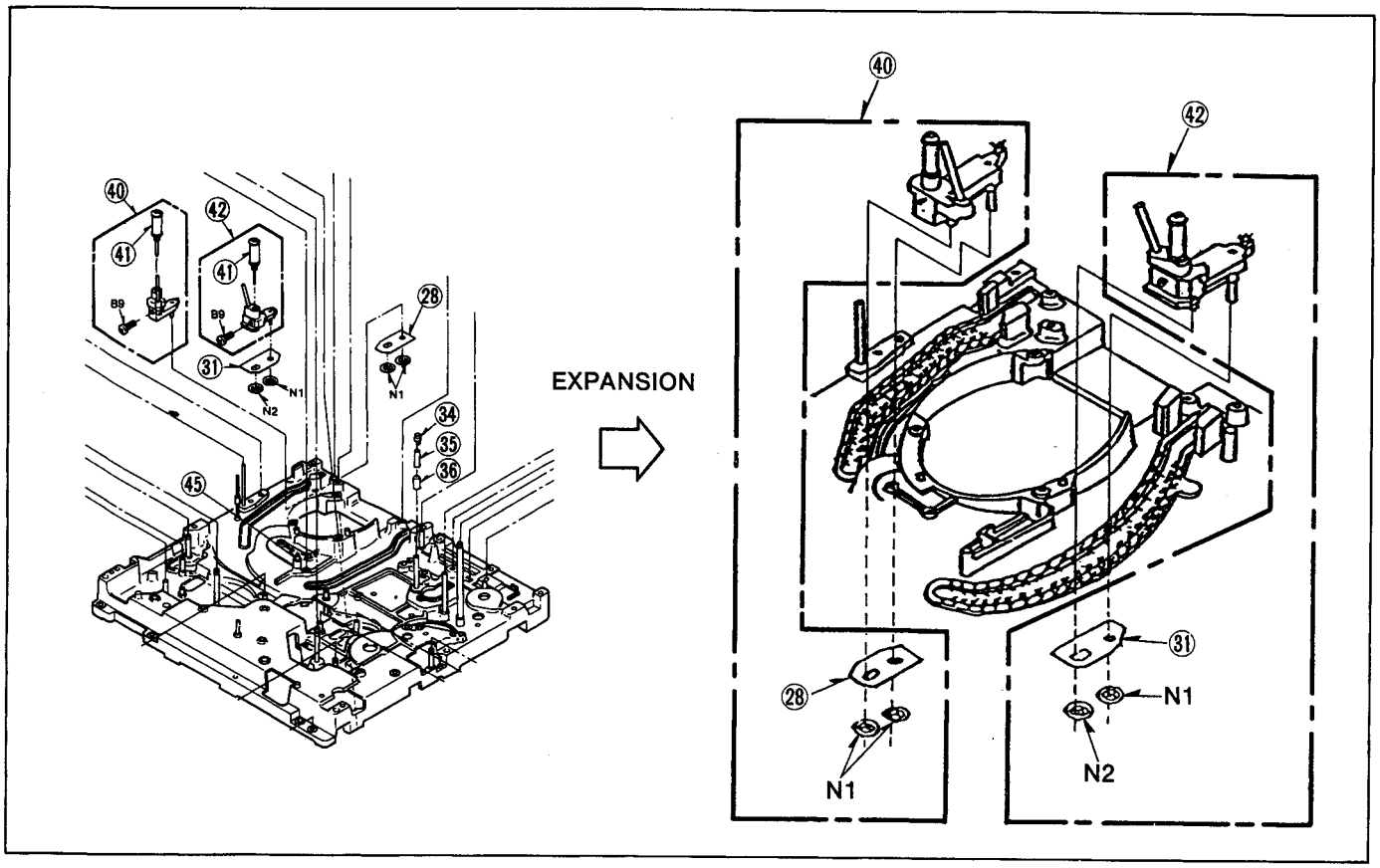
This list shows parts change for SUPPLE 1~3(SUPPLEMENT 1~3). When using or ordering the parts below, refer to this.

Note:(1)Parts indicated by " ▲ " do not have interchangeability.
(2)Parts indicated by " ● " should be used on New Part(SUPPLE1,2 or 3).

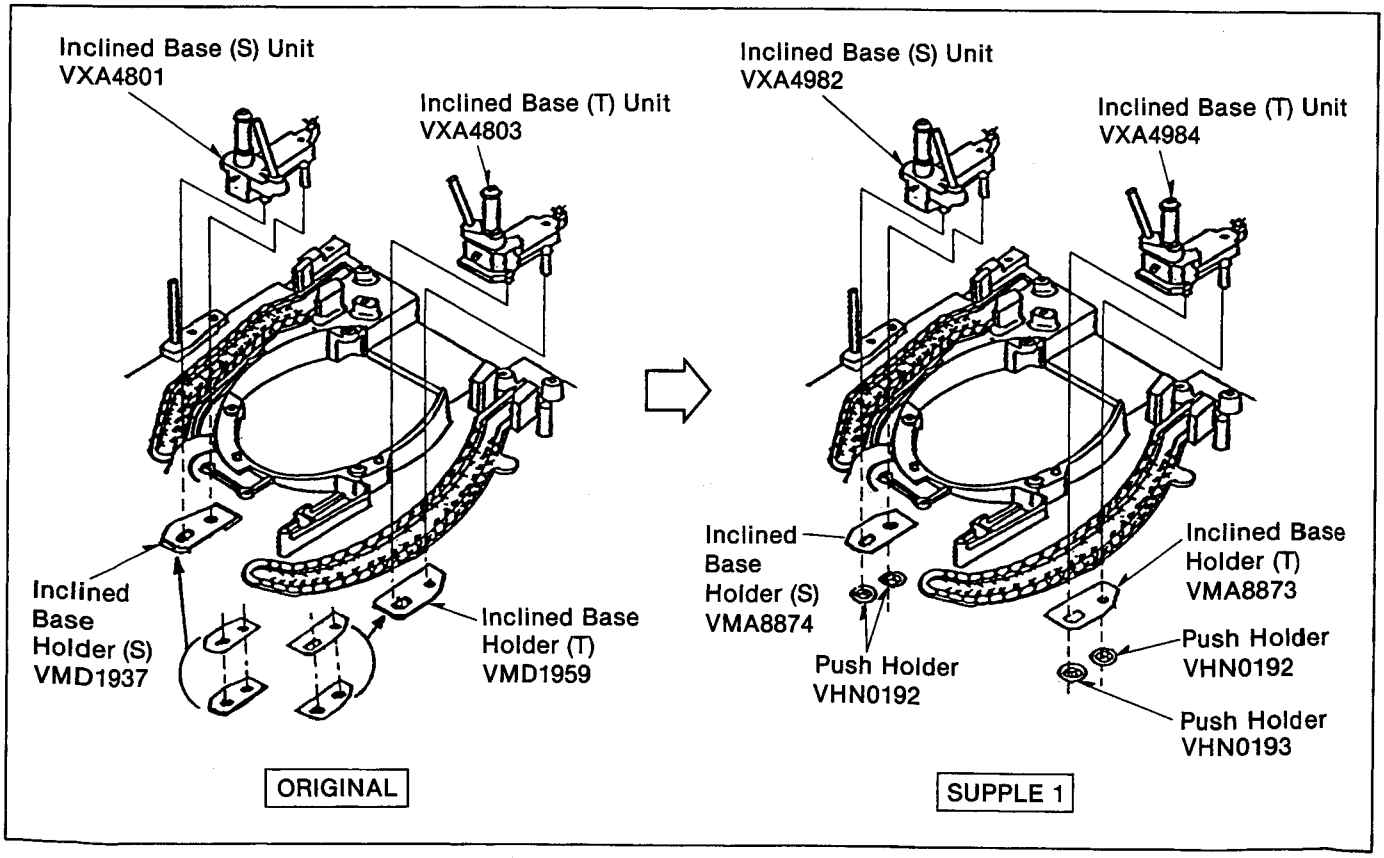
Ref.No.	Part Name	Original	SUPPLE1	SUPPLE2	SUPPLE3	
20(1)	A/C HEAD(1) UNIT	VED0182	VED0205			
28(1) ●	INCLINED BASE HOLDER(S)	VMD1937	VMA8874			
31(1) ●	INCLINED BASE HOLDER(T)	VMD1959	VMA8873			
32(1) ●	OPENER PIECE	VMD1960	VMD2101			
37(1)	TENSION RELEASE ARM	VML2772	-------			
40(1) ●	INCLINED BASE(S) UNIT	VXA4801	VXA4982KIT			
40(1) ●	INCLINED BASE(S) UNIT	VXA4982	VXA4982KIT			
41(1) ●	ROLLER POST	VXP1363A	VXP1415			
42(1) ●	INCLINED BASE(T) UNIT	VXA4803	VXA4984KIT			
42(1) ●	INCLINED BASE(T) UNIT	VXA4984	VXA4984KIT			
43(1)	ROLLER POST(T)	VXP1363	-------			
45(1) ●	CASSETTE POSITION	VMS2558	VMS5383			
	FIXTURE					
N1	PUSH HOLDER	-------	VHN0192			
N2	PUSH HOLDER	-------	VHN0193			

SUPPLE1(SUPPLEMENT SERVICE MANUAL) ··· Order No. VRD9305S015

5–2. Exploded Views of Inclined Base (S),(T) Unit



5–3. Inclined Base (S),(T) Unit Changes



6. TROUBLE SHOOTING

SYMPTOM	CAUSE/*CHECK POINT
NO SOUND IN SELF RECORD	REPLACE A/C HHEAD *IC600(34)(35) ⇨ OK
TAPE STUCK WHEN EJECTED	TAKE UP BRAKE ARM UNIT(VXZ0313) OFF *TAKE UP REEL NOT ROTATING
NOISY PICTURE IN PLAYBACK	DD CYLINDER CUT LEAD OF LOWER CYLINDER(VEG0987) *RF ENVELOPE DOESN'T APPEAR
CASSETTE BLINDER DOESN'T CLOSE	PHASE ERROR BETWEEN SIDE PLATE & CARRIAGE CONNECTION GEAR(VXA4806 & VDG0871) *VISUALLY CHECK
BAR NOISE IN PLAYBACK	DUST IN INCLINED BASE(VXA4801) *P.B PRE-RECORDED TAPE ⇨ NG SELF-RECORDED TAPE ⇨ OK
NOISY PICTURE IN SELF-REC/P.B	A/C HEAD IS DIRTY *NO CONTROL PULSE
TAPE CHEWED	P5 ARM UNIT BENT, BROKEN P5 STOPPER (VXL2306, VXA2229) *VISUALLY CHECK
THE TAPE DOESN'T LOAD	IDLER CONTROL LEVER(VML2725) NOT INSTALLED CORRECTLY
TAPE RUNNING NOISE WHEN FF	IDLER ARM(VXL2229)

SYMPTOM	CAUSE/*CHECK POINT
NOISY PICTURE IN SELF-REC/P. B(LP)	A/C HEAD DIRTY *NO CONTROL PULSE
TAPE EJECTED INSTANTLY AFTER INSERTING	PHASE ERRER BETWEEN SIDE PLATE & CARRIAGE CONNECTION GEAR(VXA4806 & VDG0871) *VISUALLY CHECK
UNIT IS IN CUE MODE WHEN PLAY BUTTON PRESSED	INCLINED BASE(S), VXA4801 NOT COMPLETELY LOCKED *GREASE TO V STOPPER AND INCLINED BASE
CAN NOT INSERT TAPE	BROKEN HOLDER PLATE LEVER(VXA4661)
TAPE DAMAGE	REPLACE PINCH ROLLER(VXA2246)

Memo

Memo

Order No. *VRD9305S015*

Service Manual

Supplement

Effective from: *Mentioned in Remarks*

Video Product

Model No. *All K-Mecha. Models*

Subject: *Change of K-Mecha. Parts*

Please use this manual together with the Service Manual
Model No. *All K-Mecha. Models*

The following Parts have been changed to improve the performance of K-Mechanism.

INTERCHANGEABLITY CODE See the I/C column on the following Part Number list											
	Parts Prdctn			Parts Prdctn			Parts Prdctn			Parts Prdctn		E	Addition
A	Orgnl → Early		B	Orgnl → Early		C	Orgnl → Early		D	Orgnl → Early		F	Deletion
	New → Late			New → Late			New → Late			New → Late		G	Other

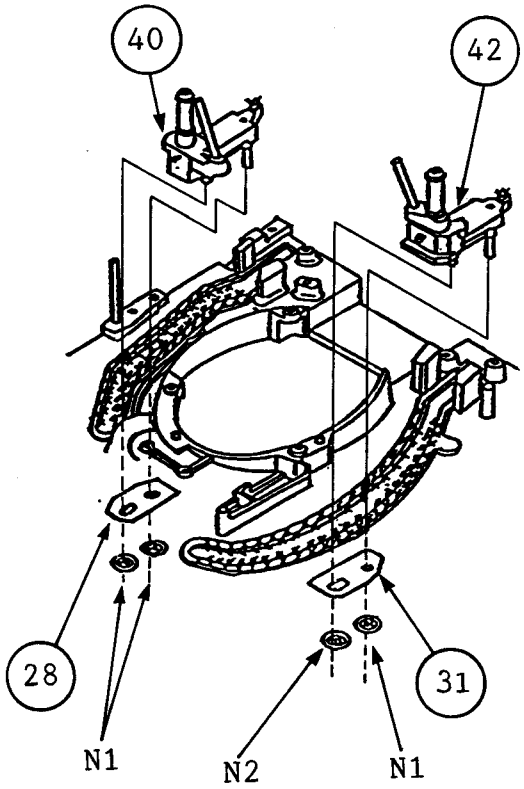
Parts Number List

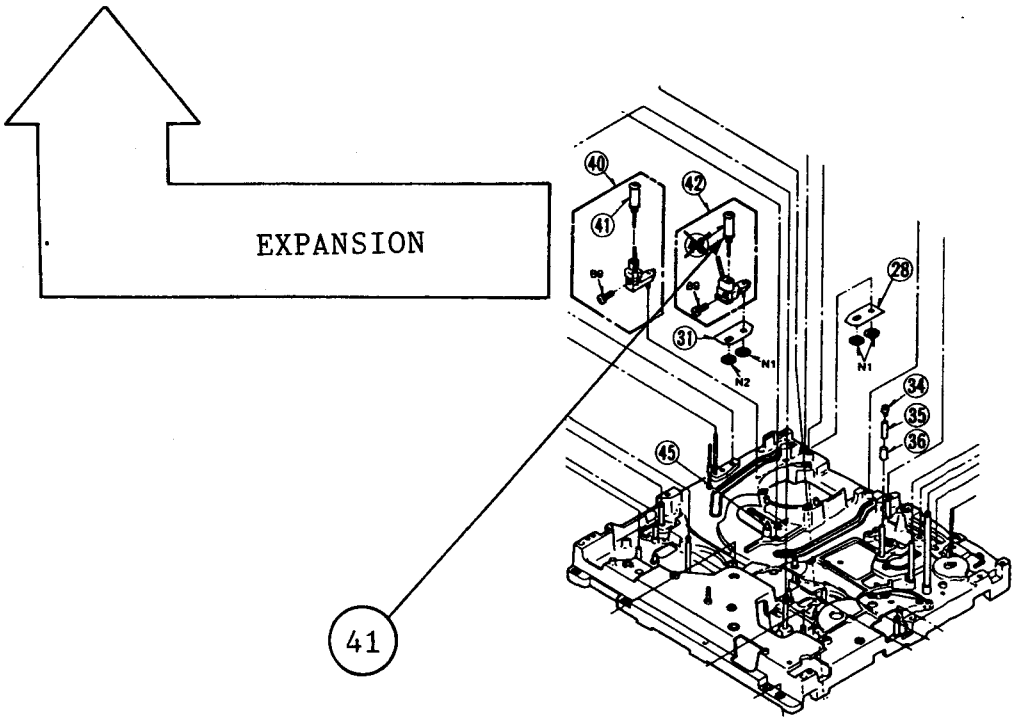
Ref. No.	Original Part NO.	New Part No.	Part Name & Description	I/C	Remarks
20(1)	VED0182	VED0205	A/C HEAD(1) UNIT	A	Running Change
28(1)	VMD1937	VMA8874	INCLINED BASE HOLDER(S)	C	First Production
31(1)	VMD1959	VMA8873	INCLINED BASE HOLDER(T)	C	First Production
32(1)	VMD1960	VMD2101	OPENER PIECE	C	First Production
37(1)	VML2772	———	TENSION RELEASE ARM	F	First Production
40(1)	VXA4801	VXA4982KIT	INCLINED BASE(S) UNIT	C	First Production
40(1)	VXA4982	VXA4982KIT	INCLINED BASE(S) UNIT	C	First Production
41(1)	VXP1363A	VXP1415	ROLLER POST	C	First Production
42(1)	VXA4803	VXA4984KIT	INCLINED BASE(T) UNIT	C	First Production
42(1)	VXA4984	VXA4984KIT	INCLINED BASE(T) UNIT	C	First Production
43(1)	VXP1363	———	ROLLER POST(T)	F	First Production
45(1)	VMS2558	VMS5383	CASSETTE POSITION FIXTURE	C	First Production
N1	———	VHN0192	PUSH HOLDER	E	First Production
N2	———	VHN0193	PUSH HOLDER	E	First Production

(*)Refer to the Exploded View on the other side of this page.

Panasonic

[Exploded Views of Inclined Base(S),(T) Unit]





Order No. VRD9605S018

Service Manual

Supplement

Effective from: First Production

Video Product

Model No. ALL G-MECHANISM
ALL K-MECHANISM

Subject: Capstan FG Adjustment

Please use this manual together with the Service Manual for Order No.
Model No.

CAPSTAN FG ADJUSTMENT

(Equipment Required)
Fine Adjustment Gear Driver (VFK0330)
(Specification)
G-Mechanism: 0.16+-0.04mm
K-Mechanism: 0.15+-0.04mm

1. Slightly loosen screw for FG Head and set the Fine Adjustment Gear Driver into the hole(A).
2. Turn the Fine Adjustment Gear Driver counter-clockwise until the FG Head touches the rotor.
   Then turn it slightly clockwise to the clearance as specified.
3. Tighten screw for FG Head.

Note:
Do not touch the outside circumference of the rotor surface with any tool and keep magnetic material away from the rotor magnet.

(Confirmation)
1) Record the video signal in LP(PAL)/SLP(NTSC) mode.
2) Measure the output of FG1 and FG2 which supplied from Capstan Stator Unit.
3) Confirm that the signal is more than 30mVp-p (G-Mech)/20mVp-p(K-Mech) as shown in Fig. CF2.

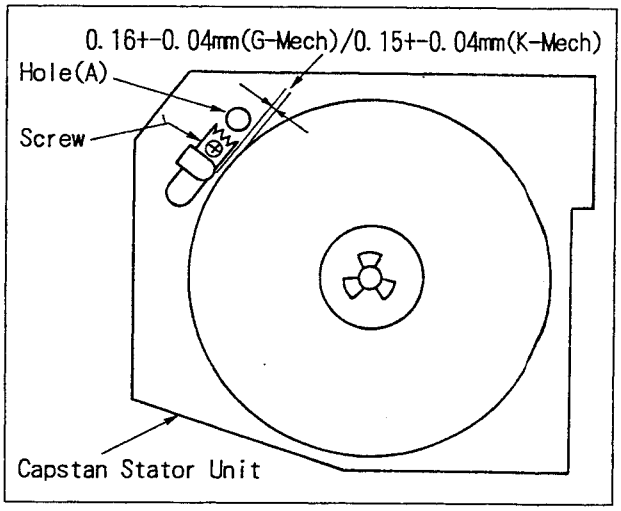


Fig. CF1

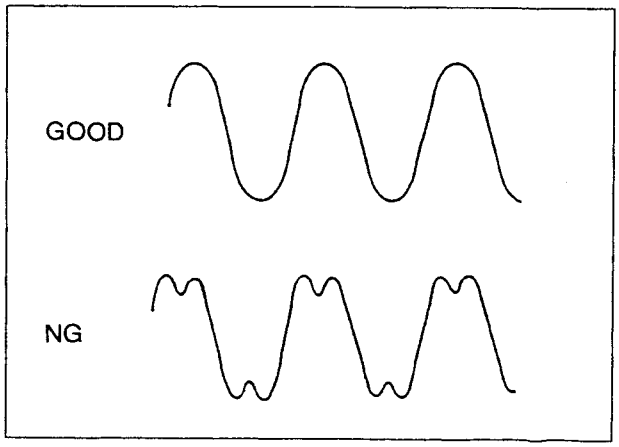


Fig. CF2

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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